DOCUMENT RESUME

ED 043 423 RC 004 694

TITLE	Teachers in Appalachia.
INSTITUTION	Little (Arthur D.), Inc., Washington, D.C.
SPONS AGENCY	Appalachian Regional Commission, Washington, D.C.
REPORT NO	Appal-R-R-12
PUB DATE	Aug 70
NOTE	100p.
AVAILABLE FROM	Appalachian Regional Commission, 1666 Connecticut Avenue, N.W., Washington, D.C. 20235 ($2.50)
EDRS PRICE	EDRS Price MF-$0.50 HC-$5.10
DESCRIPTORS	Disadvantaged Groups, Educational Improvement, *Educational Planning, Educational Research, *Program Development, Program Improvement, *Regional Programs, *Rural Education, *Teacher Background, Teacher Improvement, Teacher Recruitment
IDENTIFIERS	*Appalachia

ABSTRACT

The purpose of the study was to provide data and interpretations to help policy makers of the Appalachian Regional Commission in improving the quality and quantity of teachers in Appalachia. Questionnaires were sent to a 20% random stratified sample of approximately 162,000 teachers in the Appalachian portions of 11 states: Alabama, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and West Virginia. On the basis of the data collected, the Appalachian Regional Commission is planning programs for improved teacher recruitment, training, retraining, and retention within the Appalachian region. Detailed results of the various analyses are listed under the headings of (1) Background and Characteristics of Teachers, (2) Quality and Relevance of Preparation, (3) Experience as a Teacher in Appalachia, (4) Factors in Teacher Retention, and (5) Urban-Rural Differences. The recommendations center around 3 areas: preparation of Appalachian teachers, retention of young and well-educated teachers, and teacher aides and educational technology. (EJ)

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Appalachian Research Report No. 12

TEACHERS IN APPALACHIA

By

Arthur D. Little, Inc.
Washington, D.C.

August 1970

Reprint of a Report Prepared for the
Appalachian Regional Commission
1666 Connecticut Avenue, N.W.
Washington, D.C. 20235

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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RC004694

EDITOR'S NOTE:

Since the release of the original study earlier in the year several states and universities have utilized the findings to plan needed education manpower programs. Proposals submitted by North Carolina and New York, which were based almost totally on the Appalachian teacher survey, have already been funded by the Commission and state or local governments.

Several colleges and universities located in and out of the region have requested permission to use the study questionnaire to help assess teacher manpower needs in their multicounty areas.

For example, through Pennsylvania's State Department of Education Shippensburg State College is working with its sister state colleges in designing an Appalachian questionnaire. The questionnaire will be used to survey graduates in teacher education as a part of a pending re-accreditation procedure.

ACKNOWLEDGMENTS

We thank Dr. Harold Morse, Deputy Director, Education Staff, Appalachian Regional Commission, for his guidance and efforts on behalf of this study. We also thank the following members of the Educational Manpower Subcommittee of the Commission, identified by the state they represent, which met periodically to guide, review and approve the progress of the study:

Dr. Frank T. Speed, Alabama
Dr. Haskin Pounds, Georgia
Dr. George Rush, Kentucky
Dr. H. David Reese, Maryland
Dr. Russell Crider, Mississippi
Dr. John K. Bettersworth, Mississippi
Dr. Earle Flatt, New York
Dr. James Valsame, North Carolina
Mr. Bernard Miller, Ohio
Dr. Wallace Maurer, Pennsylvania
Mr. John Maynard, South Carolina
Dr. James A. Morris, South Carolina
Dr. Willis Nowell, Tennessee
Mr. James R. Leonard, Tennessee
Mr. A. Gordon Brooks, Virginia
Mr. Robert L. Masden, Virginia
Dr. James Thomas, West Virginia

Dr. Anton S. Morton acted as Project Director for Arthur D. Little, Inc., Dr. Edwin B. Cox devised the statistical analysis. Dr. William B. Garland and Dr. Stefan Moses carried out initial liaison work with the State Departments of Education, conducted the reconaissance and pretesting of questionnaires, and participated in questionnaire construction. Mr. Gerald Kramer supervised Mr. Clayton Ward, Jr. and Miss Geraldine Corea in the computer programming. Mrs. Nancy Webster assisted in many aspects of the study, from choosing the sample through supervising shipment of questionnaires. Mrs. Ada Doane acted as project secretary, typing a number of drafts of the questionnaire and the reports.

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I. SUMMARY

A. PURPOSE

The purpose of this study of Appalachian teachers was to provide data and interpretations that will help policy makers to improve the quality and quantity of teachers in Appalachia. Data were obtained in order to provide information leading to the development of programs which will improve teacher recruitment, training, retraining, and retention within the Appalachian region.

B. METHOD

Questionnaires were sent to a 20% random stratified sample of the approximately 162,000 teachers in the Appalachian portions of eleven states:

Alabama
Kentucky
Maryland
Mississippi
New York
North Carolina
Ohio
Pennsylvania
South Carolina
Tennessee
West Virginia

The questionnaire was developed on the basis of our previous experience, recommendations from the ARC Education Staff, interviews with Appalachian teachers, and the review of the Appalachian Education Manpower Committee. Questionnaires were identified with unique serial numbers, and records were kept of which questionnaires went to which Local Development Districts (LDD's), schools, and states. The questionnaires, distributed in September and October of 1969, asked teachers about their educational background, their teaching experience, their present teaching position and background questions about themselves.

A number of kinds of analyses were carried out. First, descriptive analyses gave pictures of the characteristics of

Appalachian teachers. Second, urban-rural differences were ascertained. Third, various relationships among characteristics of Appalachian teachers were ascertained by contingency tables. Finally, a step-wise multiple regression procedure was used to identify aspects of school districts, their teachers, and their communities which are related to high proportions of teachers in those districts intending to remain teaching there. Recommendations were made for areas in which programs need to be developed.

C. A PROFILE OF THE APPALACHIAN TEACHER

Our survey indicates that the typical (modal or median) Appalachian teacher:

- Was born in Appalachia
- Went to high school there
- Received the bachelor's degree there
- Received that degree in the last ten years
- Has spent all his or her teaching years in the same state
- Is a woman
- Is under 40 (about 38) years of age
- Judges that she received adequate training in college to meet the needs of most aspects of her teaching assignment
- But judges that she did not have sufficient college training in methods for teaching disadvantaged students or in the vocational opportunities open to her students
- Has received in-service training in the past two years
- Has taken a credit course from a college or university within the last two years
- Finds college or graduate school courses on educational methods and subject matter available within 25 miles of home or school

- Judges that in-service training in the following areas is less than adequate:
  - application of educational theory
  - teaching methods for disadvantaged students
- Does not work directly with student teachers, teaching interns, or Teacher Corps Interns
- Works in a school where there are no teachers' aides
- Chose her first teaching job primarily on the basis of family or community reasons
- Has taught in public schools longer (about 10 years) than the typical American teacher
- Has classes of between 26 and 35 students
- Spends about 37 hours per week in school
- Earns about $6500 (1968-69 median) a year
- Teaches in a building whose oldest part is about 20 years old, and whose newest part is about 10 years old
- Teaches in a school where the following facilities are inadequate, in her judgment:
  - Cooling system
  - Auditorium
  - Noise control
  - Recreation spaces and facilities
  - Science equipment.
- Is satisfied with the following in her school system, enough to make her wish to continue teaching there:
  - Respect from other teachers
  - Freedom to teach in her own way
  - Respect from the community
  - Respect from school administrators
  - Teaching subjects in which she is trained.
- Intends to teach in the same system two or three years from now

D. DETAILED RESULTS

In this portion, we will summarize our results under the same headings used in chapters of this report.

1. Background and Characteristics of Teachers

Appalachian teachers have typically gained their education and experience in Appalachia. Eighty-three percent of them have completed most of their high school years in the state in which they are now teaching. Ninety percent of those with a bachelor's degree received it in one of the Appalachian states. Ninety-four percent of those who have master's degrees received them in one of the Appalachian states. More than 80% of them have spent all their teaching years in the same state. Ninety-two percent were born in one of the Appalachian states. They tend to be isolated from metropolitan areas. Only 15% live in a city with more than 50,000 people.

The most common teaching assignments are elementary education (10.8%) and English (12.9%). About seven out of every ten Appalachian teachers are women.

2. Quality and Relevance of Preparation

About one in ten Appalachian teachers does not have a bachelor's degree. At least thirteen percent of Appalachian teachers (more than double the national percentage, 5.0%) have less than complete certification (emergency, temporary or interim permit, excuse in default of certificate, special license). Six-tenths of one percent indicate that they have no certification. Eight percent did not answer the question about certification; we suspect that a large proportion of them do not have full professional certification.

Although Appalachian teachers consider that their courses and internship training in college were adequate for a number of areas, they feel inadequately trained in others. Only a third felt that they had sufficient training in methods for teaching disadvantaged students. Only 28% felt that they had sufficient training or knowledge in the vocational opportunities open to their pupils.

Only 68% of special education teachers, and 55% of teachers of trade and industrial education indicated that, in their judgment, they received sufficient training in college to meet the needs of their teaching assignment. We ascertained, for each subject taught, the percentage of teachers who had one or more of the following kinds of college or graduate school preparation for teaching that subject or a closely related one:

college major or area of concentration

college minor or 15 or more semester hours
of graduate credits

master's or doctor's degree

At least 75% of teachers of 20 subjects (out of 43 for which the survey obtained information) had received one or more of the kinds of preparation indicated. However, fewer than 75% had received that kind of preparation in the following subjects:

Subject Taught	Percent with Preparation Described Above
Anthropology	33.5
Art	60.3
Counseling	68.8
Distributive Ed.	73.5
Economics	56.0
Education (Gen.)	66.7
Forestry	41.8
Geography	44.8
Health	54.5
Language Arts	70.6
Library Science	44.0
Mathematics	63.8
Music	65.3
Philosophy	43.9
Physical Ed.	74.3
Pol. Sci., Int. Rel.	66.3
Psychology	53.6
Reading	54.2
Religion	57.2
Science	69.4
Soc. Science	51.0
Sociology	52.0
Speech-Drama	66.4

Although many Appalachian teachers have recently taken college courses for credit, 11% last took a college course for credit six to ten years ago, another 13% more than ten years ago, and 1% have never taken a college course.

Those who last received college credit training many years ago are no more likely to have received in-service training recently than those who have recently received college credit education. Further, if we are to believe the judgment of our respondents, the less adequate their college training was, the less adequate their recent in-service training has been. In both these respects, we see no evidence that in-service training is making up for perceived inadequacies in college training.

For five-sixths of Appalachian teachers, college or graduate school courses on education methods and subject matter are available within 25 miles of their home or school. However, only 58.7% of these five-sixths indicated that such courses were available at convenient times, and 69% indicated that such courses were relevant to their current teaching assignments.

Although more than 62% of Appalachian teachers have received in-service training within the last two years, 23.9% have never received in-service training. This latter percentage is far higher than the 8% of teachers who are new to teaching this year and who we would have expected not to have had in-service training. Only half the teachers in our sample are in systems which offer in-service training. The probability that a system offers in-service training is higher in the largest cities than in the smaller towns.

When teachers evaluate in-service training, they find it less adequate to the needs of their teaching assignment than they find their college courses. In contrast to the 80% who found college preparation in this area adequate, only 39% felt that in-service training in the application of educational theory was sufficient. Only 17% feel that their in-service training in teaching methods for disadvantaged students has been sufficient. Only 10% indicated that in-service training had provided them with sufficient knowledge about the vocational opportunities open to their pupils. Teachers believe that in-service training programs can be improved by making them more relevant (25%) and scheduling them during the school day (20%). Only one out of twenty teachers believes that in-service training has been presented in an excellent way and does not see how it can be improved.

Only one-quarter of Appalachian teachers benefit from another method for finding out about recent developments in education, namely, by working directly with student teachers, teaching interns, or Teacher Corps Interns. The proportion who do so increases from one-sixth of the teachers in the smaller towns to almost a third of the teachers in the larger towns.

3. Experience As A Teacher In Appalachia

Teachers choose their first teaching job primarily on the basis of family and community reasons. These include the job being near parents or relatives, a system located in "a pleasant place to live," and "a community close to where my husband or wife had a job or went to school." Subsequent job choices are also influenced by salary, the freedom to teach the way a teacher thinks he should, and guaranteed assignment to a school, grade, or subject matter of choice. The quality of the superintendent, principal, and administrative staff, not mentioned as important in the choice of first teaching job, becomes important in the choice of subsequent teaching jobs.

One-third of teachers in Appalachia have had gaps in their teaching career. Many of the women teachers have left teaching temporarily to rear children.

Appalachian teachers stay longer in teaching than the typical American teacher.

Class sizes and teacher working hours in Appalachia are close to those for the United States.

Less than half of Appalachian teachers work in schools where there are teacher aides. Typically, there is less than one teacher aide for five teachers in these schools. Teacher aides' duties are largely clerical.

Many of the physical facilities in the schools leave something to be desired. The following percentages of Appalachian teachers report that given kinds of physical facilities are either inadequate or lacking entirely:

Cooling system, 68%

Noise control, 58%

Auditorium, 57%

Recreation spaces and facilities, 51%

Health facilities, 48%

Electrical outlets, 47%

Library (physical setting only), 44%

Lunch room, 42%

Ventilation, 37%

Toilet facilities, 37%

Classroom size, 34% .

The following percentages of Appalachian teachers report that, in their judgment, the following instructional facilities and materials in their school are either inadequate or non-existent:

Science equipment, 52%

Science laboratory, 50%

Language laboratory, 50%

Audio-visual material, 47%

Audio-visual equipment, 45%

Library materials, 43%.

The average teacher income in 1968-69 in Appalachia, about $6900, was $1,000 less than the mean United States teacher salary. Male teachers often work at a job other than classroom teaching during the summer, presumably in order to augment their low income from teaching.

4. Factors in Teacher Retention

Teachers who leave one school system for another do so one-fourth of the time for personal reasons unconnected with the school system or community (e.g., pregnancy, spouse's job transfer). Eight percent of them leave because the salary was too low.

Appalachian teachers are typically satisfied with a number of aspects of their school system or community, to the extent that these definitely contribute to their satisfaction in teaching there and make them wish to stay there. More than 50% of our sample indicated this about the following:

Respect from other teachers, 70%

Freedom to teach in my own way, 69%

Teaching subjects in which I am trained, 67%

Respect from the community, 56%

Respect from school administrators, 55%.

Only 2% of the teachers indicated that none of the 36 aspects listed makes them wish to continue teaching in their present school system and community. When teachers were asked which aspects of their school system and community definitely contribute to their dissatisfaction in teaching there and make them wish to leave, a third of them indicated that none of the 36 factors listed made them wish to leave. Only four factors contributed to the lack of satisfaction of 15% or more of the teachers:

Too much "red tape" involved in getting things done, 24%

Lack of community respect for teachers, 15%

Poor fringe benefits, 15%

Lack of pupil discipline, 15%.

As teachers gain more experience, they become more adjusted to their system. We found that many more experienced than inexperienced teachers indicated that none of the listed aspects of their school system or community made them wish to leave it.

Almost three out of five Appalachian teachers intend to teach public school two or three years from now in the system in which they are now teaching. Fourteen percent are undecided.

Teachers who stated that they do not intend to work two or three years from now in the same system were asked which two incentives would do the most to keep them in their present school system. Thirty-one percent of them indicated that 10% higher salary would do the most to keep them in their present system. Eighteen percent named "one more period during the day for preparation" as the incentive that would do most to keep them in their present system.

Teachers were asked whether they knew anyone well who had been teaching in their state but who left public classroom teaching recently. The most common reasons for leaving were in order to retire (20%) and in order to become full time homemakers (20%). Those who leave, compared with present teachers, are more likely to be male and young, in their twenties. Forty percent of those who left did so because their salary was too low. Twenty-four percent did so for personal reasons unconnected with the school system or the community.

In order to see whether there are controllable factors that account for teacher attrition or retention, we carried out a multiple step-wise regression procedure to find those aspects of districts which were most closely related to intentions of male or female teachers to continue teaching in their systems. In general, we found that teachers in small towns were more likely to intend to remain in their systems than those in larger towns and cities. The quality of supervision was related to intentions to remain. We also found that school-home relationships, unfortunately not easily controllable, were related to retention intentions. Finally, high salaries were related to retention intentions.

5. Urban-Rural Differences

In comparing the responses of teachers in locations with fewer than 5,000 inhabitants, 5,000 to 24,999 inhabitants, and 25,000 or more inhabitants, we found few differences. Teachers in the locations with few inhabitants are more likely than teachers in the locations with many inhabitants to be:

Local people

Far from colleges or graduate schools which teach courses on education methods and subject matter

In schools which do not offer in-service training

In schools where they do not work with student teachers, teaching interns, or Teacher Corps Interns

Teachers of more than ten years' experience

Male

Teaching in schools with inadequate libraries

Teaching in a school where there are teacher aides

Teaching at a lower salary

Intending to teach in the same district two or three years from now.

E. RECOMMENDATIONS

Recommendations were made, based on the survey results, to help solve problems in education in Appalachia. Recommendations center around three areas:

1. Preparation of Appalachian Teachers

A very small minority of children in Appalachia now receive kindergarten and early childhood education. Twenty-one thousand more teachers need to be prepared and recruited to teach these subjects. This will require the allocation of substantial resources by legislation.

A serious effort needs to be made to upgrade the capabilities of many Appalachian teachers, especially those who lack certification, the bachelor's degree, or both.* Added to this is the need for grounding in recent educational advances for those who have not taken either in-service training or college credit courses in many years.

Because so many Appalachian students come from the culture of the disadvantaged, and because so few teachers are prepared either in terms of background or training to communicate with them, teachers must receive training in methods of teaching the disadvantaged. Such training should consist of more than courses. Techniques like role-playing and group in-depth interviews with the disadvantaged can help teachers to understand, and thereby to meet, the needs of the disadvantaged.

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* We are aware that certification and the bachelor's degree are not infallible hallmarks of teacher quality. They are, however, the standard indices of quality.

In line with the mission of the Appalachian Regional Commission in upgrading vocational training and increasing the range and quality of vocational opportunities in Appalachia, and in line with the large number of Appalachian teachers who feel inadequately prepared in their knowledge of vocational opportunities for their students, training in this area is necessary. More Appalachian teachers need to be trained in trade and industrial education, vocational education, and special education.

In-service training must be organized to reach the rural areas and the older teachers with new educational ideas and experiences. Teachers must be motivated to receive in-service training. Both intrinsic and extrinsic motivation should be furnished. In-service training should be followed up by parallel and related action on curriculum, supervision, etc., in the schools. It should be made available during the school day, and should be relevant to the teachers' actual classroom responsibilities.

2. Retention of Young and Well-Educated Teachers

The Appalachian states must take steps to prevent the loss of their younger and better educated teachers. Similarly, they must take steps to stop the attrition of their male teachers, which is higher than the attrition of female teachers.

3. Teacher Aides and Educational Technology

Teacher aides and educational technology will help Appalachian teachers to multiply their own capabilities and increase their creativity in teaching.

II. BACKGROUND, PURPOSE, AND SCOPE

A. BACKGROUND

Among the responsibilities of the Appalachian Regional Commission (ARC) is the improvement of the quality and quantity of teachers in Appalachia. The ARC has been handicapped in fulfilling this responsibility by the unavailability of hard data on the subject. In order to meet its own planning needs and to provide information for decision making on the part of federal and state legislators, the State Departments of Education, local school districts, the Office of Education, and the Higher Education Commissions, the Appalachian Regional Commission must develop hard quantitative statistical data on the present status of experience and education of teachers in Appalachia, enriched by qualitative data on teachers' interpretations of this experience and education in view of the demands of their jobs.

B. PURPOSE

The purpose of the study was to provide data and interpretations that would be credible to policy makers. Data were obtained in order to plan programs for improved teacher recruitment, training, retraining, and retention within the Appalachian region, so that better educational opportunities can be created for both teachers and learners. On the basis of these data, we propose programs designed to improve the quality of education in Appalachia.

The purposes of this study resolved themselves into three areas: inventory, relationships, and program recommendations.

1. Inventory

One of our purposes was to design, distribute and analyze a questionnaire that would present a picture of some characteristics of Appalachian teachers:

> their demographic characteristics, such as age, sex, place of birth, and marital status
>
> the kinds of training they have received, including college academic preparation, the kinds of institutions of higher education where they were formally trained, their level and type of in-service training, etc.

the kinds of teaching positions they have held

their attitudes toward the relevance of their formal academic preparation and their pre-service and in-service training to their subsequent professional work in education

their attitudes of job satisfaction and dissatisfaction

their attitudes toward recruiting, administrative, and training policies and procedures

their attitudes toward other teachers, administrators, parents, and students

their attitudes concerning the adequacy of schools' physical plants, the age of existing school structures, etc.

patterns of in- and out-migration and factors contributing to migration decisions*

number of teachers in Appalachia in special types of teaching, such as early childhood, vocational/technical, teaching the handicapped.*

2. Relationships

Another purpose of the study was to show the relationships among variables for which we obtained information. Such relationships included the following:

socioeconomic factors and decisions to begin or continue teaching in a school

various items of pre- and in-service training and the teachers' own judgments of the adequacy of their teaching performance

various inventory items and teachers' attitudes toward their teaching careers, in general and in the school in which they are now teaching.

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* Data on these two aspects of the inventory were derived from documents furnished by Appalachian State Departments of Education. An interim report on these data, dated July 1969, was furnished to the Appalachian Regional Commission.

Among our objectives was to determine the relative effects that various identified factors and combinations thereof have upon:

the performance by Appalachian teachers of their educational responsibilities

the attitudes of Appalachian teachers toward their teaching careers

the quality of education in Appalachia.

A further purpose was to compare Appalachian teachers and their schools with those in other parts of the United States.

Analyses of key variables were also to be made for states and Local Development Districts (LDD's) of the Appalachian Regional Commission in order to show the states and LDD's where they stand with relationship to Appalachia as a whole.

3. Program Preparation and Recommendations

The most important purpose of our study was to make recommendations, based on the collated and integrated data, for steps to be taken by the various parties at interest that will improve the quality and quantity of teachers in Appalachia.

C. SCOPE

The results of the study are applicable to the approximately 162,000 teachers in the Appalachian portions of eleven states. These states are

Alabama
Kentucky
Maryland
Mississippi
New York
North Carolina
Ohio
Pennsylvania
South Carolina
Tennessee
West Virginia.

Georgia and Virginia, both within the Appalachian region, chose not to participate in the study.

The data in our study apply only to classroom teachers. Although we collected some data on other professionals working in the schools, we focused our attention on the classroom teacher.

III. A BRIEF DISCUSSION OF METHOD

A. SAMPLING

The aim of the sampling was to provide a 20% sample of classroom teachers in the Appalachian areas of the participating states which would be representative of the Appalachian portions of these states and spread throughout them geographically. Official state publications provided data about the number of teachers in each school and district in each county in the Appalachian portions of the participating states. The documents for some states differentiated between classroom teachers and other educational professionals (principals, supervisors, school librarians, school nurses, guidance counselors, etc.). In other states, numbers were available only for all educational personnel, including those whose primary responsibilities were not in classroom teaching. Where differentiated data were available, the number of classroom teachers was used in setting up the sampling procedure.

In each state, at least fifty primary sampling units were identified. In states whose Appalachian portions contained fifty or more school systems, the system was used as a primary sampling unit. In other states, individual schools were set up as the primary sampling units. The following steps defined the sampling procedure.

We obtained lists of primary sampling units, by county, from each state. Lists included the names and addresses of the schools or systems, names of the superintendents or principals, and numbers of teachers in the schools or systems. Then

each sampling unit was identified with a county and an LDD;

the urban and rural percentages were determined for each county;

within each LDD, we arranged the primary sampling units in order of size;

within each LDD we chose every fifth primary sampling unit from the list. We added the number of teachers in the chosen sampling units and checked that they were indeed 20% of the number in these LDD's, or thereabouts. If they were not, we made minor changes in the list, choosing primary sampling units adjacent to those initially chosen, so that the total sample numbers were 20% of the number in the LDD.

In one LDD, almost all the teachers were in one very large school system. In this case, we picked every fifth school in that system and treated it as a separate stratum.

We then checked to see whether the urban/rural ratio of the primary sampling units chosen was close to that of the LDD. If it was not, we made minor changes in the sample, until the proper urban/rural ratio was approximated, still keeping within the 20% sampling constraint.

We then added the number of teachers for each state and checked that we were still within one percentage point of the 20% sampling ratio, and within a few percentage points of the state's urban/rural ratio.

This method resulted in each primary sampling unit having a probability of being included in the sample that was proportional to its number of teachers. Clearly, this implied that one out of every five primary sampling units was chosen for the study and that each teacher had a 20% probability of being included in the sample. This method also saw to it that the sample included some teachers from each LDD, county, and state. Table 1 shows that, out of 984 school districts that served as primary sampling units, 197, almost exactly 20%, are included in the sample. Similarly, out of the 1,828 schools that served as primary sampling units, 365 were included in the sample.

Table 2 shows the total number of teachers in each state and the number initially chosen in the sample for each state. (Virginia was included in these tabulations, since it was initially believed that Virginia would participate in the study.) We chose exactly 20.0% of the teachers in the population for the sample. The urban ratio of the teachers in the sample was only two-tenths of one percent off from that of the population.

Lists of the sampled schools and systems were sent to the State Educational Agencies to check over for any kinds of sampling unrepresentativeness of which we might not have been aware. The states also indicated where they knew that a school had a significantly different number of teachers from those which had been indicated in the 1968-69 records we used to establish the number of teachers in a school. The states' corrections resulted in small changes in the sample size, as indicated in the last column of Table 2. As is shown there, 32,951 questionnaires were sent to teachers in Appalachia.

TABLE 1

POPULATION AND SAMPLE: PRIMARY SAMPLING UNITS

State	Number of Local Devel. Districts	Number of Counties	Number of School Districts	Number of Schools	Number of Districts to be Sampled	Number of Schools to be Sampled
Alabama	4	35	67	-	13	-
Georgia[1]	5	35	-	387	-	77
Kentucky	12	47	74	-	15	-
Maryland	1	3	-	101	-	21
Mississippi	1	20	-	202	-	40
New York	2	14	142	-	28	-
North Carolina	7	29	-	431	-	86
Ohio	3	28	129	-	26	-
Pennsylvania	7	52	440	-	88	-
City of Pittsburgh	Cont. within an LDD	Cont. within a county	-	112	-	22
South Carolina	1	6	-	290	-	58
Tennessee	5	49	77	-	16	-
Virginia[1]	6	21	-	305	-	61
West Virginia	9	55	55	-	11	-
	63	394	984	1828	197	365

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[1] Not included in study.

TABLE 2

POPULATION AND SAMPLE: NUMBER OF TEACHERS AND URBAN PROPORTION

State	Total Number of Teachers	No. of Teachers in Sample	% of Teachers in Sample	% of State Urban	% of Sample Urban	Final Sample
Alabama	17,913	3,444	19.2	53.5	55.1	3,787
Georgia[1]	-	-	-	-	-	-
Kentucky	8,781	1,775	20.2	19.0	23.6	1,775
Maryland	2,002	395	19.7	44.0	47.8	414
Mississippi	3,814	776	20.3	27.9	28.1	776
New York	12,147	2,428	20.0	49.2	52.3	2,428
North Carolina	6,552	1,373	20.9	43.1	37.5	1,368
Ohio	10,759	2,161	20.1	37.0	38.2	2,161
Pennsylvania	57,051	11,412	20.0	58.1	57.5	11,412
City of Pittsburgh	3,830	759	19.8	100.0	100.0	759
South Carolina	5,672	1,151	20.3	46.9	45.4	1,126
Tennessee	15,114	3,022	19.9	42.8	45.2	3,154
Virginia[1]	4,817	973	20.2	11.7	12.5	-
West Virginia	18,686	3,791	20.3	37.1	35.4	3,791
	167,138	33,460	20.0	47.6	47.8	32,951

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[1] Not included in study.

B. QUESTIONNAIRE DESIGN

We had considerable background in the area of important questions and issues relating to teacher satisfaction, training, background, and experience resulting from our work in California.* Many of the insights discovered in that study had been further expressed in a draft questionnaire formulated by the Appalachian Regional Commission. We also carried out a series of reconnaissance interviews in depth with teachers in Appalachia prior to redrafting the questionnaire. Reconnaissance and pretest interviews were held, with the kind permission of school administrators, in Hagerstown, Md., Spartanburg, S.C., Overton County, Tenn., and Winston-Salem, N.C. These unstructured interviews gave us insights into the attitudes, motivations, and concerns of teachers in Appalachia, so that we were able to include in the questionnaire the issues raised. The interviews also allowed us to formulate the full range of relevant responses to the questions by mirroring back what teachers told us and the way in which they told it to us.

Based on the results of our reconnaissance interviews, draft questionnaires were formulated. These were pretested with groups of teachers in Appalachia. We administered the questionnaires and then spent considerable time discussing them with the teachers. We found out which questions were not relevant to the teachers and what other questions should be asked. We found out about examples of wording which was ambiguous or not familiar to Appalachian teachers, and we obtained their suggestions for the proper wording. We found out the cases in which the answers supplied in the multiple choice format did not include all the relevant answers for the teachers. The pretests also supplied us with estimates of the time necessary to complete the questionnaires and ways to make the format easier to fill out or more attractive to Appalachian teachers.

The questionnaire was revised in the light of the pretest. Draft questionnaires were discussed in detail with the staff of the ARC and the members of the Appalachian Educational Manpower Committee (AEMC), which included representatives from each of the participating states. The questionnaire was further revised in the light of their comments. Copies of the penultimate draft of the questionnaire were then reviewed by ARC staff and members of the AEMC. Final revisions were made, and the last draft was sent to National Computer Systems (NCS).

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* Teacher Supply and Demand in California, 1965-1975, Arthur D. Little, Inc., Cambridge, Massachusetts, February 1967.

C. QUESTIONNAIRE PREPARATION

NCS prepared a questionnaire consisting of multiple choice questions which could be optically scanned by machines, saving the time and possible errors involved in keypunching by hand. A copy of the questionnaire is attached to this report. Each questionnaire had as its covering sheet a letter from the chief state school officer urging the teacher to complete the questionnaire in time for its inclusion in the study.

Each questionnaire had a unique serial number. Records were kept of which questionnaires were sent to which primary sampling unit, within which LDD, and within which state.

D. DISTRIBUTION AND RETURN OF QUESTIONNAIRES

In most cases, questionnaires were sent directly to the primary sampling units, with instructions for distribution and return. In some cases, they were sent through the State Educational Agency (SEA). Questionnaires sent directly to schools or systems included on their cover sheet a voucher which the teacher would hand in to his building principal or a designated representative thereof, indicating that he had returned the questionnaire. In most cases, teachers returned questionnaires directly to National Computer Systems. In some cases, they sealed the questionnaires in envelopes and handed them to their building principal or his designated representative, and the questionnaires were forwarded through the SEA to NCS. In all cases, the anonymity of the teacher was preserved.

At intervals after the questionnaires were distributed, primary sampling units reported to their SEA the number and percentage of questionnaires returned. SEA's encouraged the participating primary sampling units to build as close as possible to a 100% return.

Twenty-six thousand, one hundred and twenty-nine questionnaires were returned in time for analysis, a return rate of about 79%. Questionnaires were filled out in October and November 1969.

At all stages of the process of questionnaire design, preparation, and distribution, the Appalachian Regional Commission headquarters staff, the Appalachian Regional Commission Local Development District Executive Directors, representatives of the participating states, primary sampling units in the sample, and the contractor worked together to coordinate an undertaking that would in timely and adequate fashion result in a valid study. For example, executive directors of LDD's added their voices to those of the State Educational Agencies in urging local schools to participate with commitment in the study.

E. ANALYSIS

The following kinds of analyses were carried out:

Descriptive analyses. These included one-dimensional tables for each question in the questionnaire and some other analyses showing the kinds of people teaching in Appalachia. For all analyses, including these, teacher responses were weighted by the inverse of the response rate for the primary sampling unit, thus compensating for the fact that some sampling units had higher response rates than others. We thereby obtained a picture of what would have happened if all sampling units had had equal response rates.

Urban-rural differences. Teachers in primarily urban and primarily rural LDD's were compared.

Regional orientation of staff. Analyses here tested the hypotheses that Appalachian teachers think in terms of their own states, are (by and large) from the Appalachian states, and have received their education there.

Quality of preparation. These analyses tested the quality of the preparation of teachers in Appalachia.

Relevance of preparation. These analyses tested whether Appalachian teachers have been prepared in subjects relevant to what they are now teaching.

Factors influencing retention. For each primary sampling unit, we divided teachers into male and female subsamples and carried out the remaining steps separately for them. We included a primary sampling unit in a subsample only if its number of male or female teachers was ten or more, in order to achieve statistical validity. Averages or percentages for each of about 80 independent variables were calculated for inclusion in a regression equation. A stepwise multiple linear regression between the independent variables and the dependent variable (percentage of teachers expecting to leave their school system) was calculated. Further, contingency counts were made showing the relationships of other factors influencing retention.

F. RECOMMENDATIONS

Recommendations for programs to solve some of the problems of teaching in Appalachia were developed on the basis of the findings. Succeeding chapters discuss results and recommendations.

IV. BACKGROUND AND CHARACTERISTICS OF TEACHERS

A. LACK OF MOBILITY

A striking characteristic of Appalachian teachers is their geographic immobility and their orientation to the Appalachian region. This lack of mobility during their lifetimes means that these teachers tend to be exposed to more or less the same environment in terms of their childhood formative influences, their college preparation, and their present teaching responsibilities. Eighty-three percent completed the majority of their high school years in the state in which they are now teaching. More than 90% of Appalachian teachers with a bachelor's degree received it in one of the Appalachian states, although not necessarily the state in which they now teach. Almost 94% of those who have master's degrees received them in one of the Appalachian states. Ninety-two percent were born in Appalachia.

Table 3 shows some combinations of these mobility factors. It shows various combinations of matching and non-matching among the state of birth, the state in which most of the high school years were completed, the state in which the respondent received his or her bachelor's degree, and the state in which the respondent presently teaches. More than 45% of Appalachian teachers were born, went to high school, and went to college in the same state in which they are now teaching. Only one out of every 20 teachers indicated four different states for places of birth, high school, college, and his present teaching position.

TABLE 3

PER CENT OF APPALACHIAN TEACHERS WHOSE STATES OF BIRTH, HIGH SCHOOL ATTENDANCE, COLLEGE LOCATION, AND PRESENT TEACHING POSITION MATCH (M) OR DO NOT MATCH (N)

Birth	H.S.	College	Job	Per Cent
M	M	M	M	45.5
M	M	N	N	14.9
N	N	N	N	5.3

Per cents do not add to 100, because not all possibilities are shown.

More than 80% of Appalachian teachers have taught in only one state. Slightly more than 3% have taught in three or more states. Fifty-eight percent of Appalachian teachers have taught only in their present school system, with 25% having taught in one other school system and 9.7% in two other school systems. A third of Appalachian teachers have spent between 50% and 99% of their teaching years in the same system. Even within the same state, Appalachian teachers are relatively immobile. Fifty-five percent have spent all of the teaching time in their state in their present system. Another 27% have spent between 50% and 99% of the teaching time in their state in their present system.

We wanted to see whether teachers of particular subjects were different from the entire group of Appalachian teachers with respect to the percentage of them who have spent all their teaching years in their present state. We looked for groups making up at least 1% (326) of the sample size with percentages in this category at least 5% above or below the percentage for all Appalachian teachers, 78.4%. 84.1% out of 332* teachers teaching economics have spent all their teaching years in the same state. Only 70.7% of 500 teachers of special education** had spent 100% of their time teaching in the same state. There is some reason to believe that special education teachers have been attracted to the Appalachian states in recent years.

In addition, Appalachian teachers tend to be isolated from metropolitan areas. Only 15% live in a city with more than 50,000 people. Nineteen percent live within less than half an hour, using their usual means of transportation, from such a city. Another 25% live within 30 to 60 minutes of it. Twenty-six percent live within one or two hours of one, and 10% take more than two hours to travel to a large city. Two percent did not know how long such transportation takes, which implies that they do not often avail themselves of it.

Table 4 compares the sizes of the places in which Appalachian teachers teach, as they estimated them, and the sizes of the places in which the United States' population resides. The two sets of distributions are not strictly comparable, since the Appalachian data are for 1969 and are based on people's estimates, whereas the United States' population data are from the United States 1960 Census. Further, the teachers' data relates to the locations of schools and thus has a bias away

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* Numbers of respondents are the weighted numbers, which are usually about 1.4 times the actual returned sample sizes.

** Teachers of exceptional children, mentally retarded, emotionally or mentally handicapped, etc.

TABLE 4

PERCENT OF APPALACHIAN TEACHERS TEACHING IN AND U.S. POPULATION LIVING IN PLACES OF GIVEN SIZES

	<2,500 Rural	2,500-4,999	5,000-9,999	10,000-24,999	25,000-49,999	50,000-99,999	≥ 100,000
Appalachian Teachers, 1969 (estimates)	25.4	12.3	15.9	17.6	10.2	8.3	10.2
U. S. Population, 1960*	36.0	4.2	5.5	9.8	8.3	7.7	28.5

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* U.S. Bureau of the Census, Statistical Abstract of the United States: 1969. Washington, D. C., 1969, Table 14, current urban definition.

from rural locations. Because of the bias, the table indicates that Appalachian schools are less likely to be located in very small towns or rural places than is the United States' population as a whole. (However, a larger proportion of the Appalachian population, than of the United States population, lives in rural areas.) The proportion of Appalachian teachers teaching in cities with a population of 100,000 or more is only about a third of the proportion of the United States' population living in cities of that size. We conclude that Appalachian schools are considerably less likely to be located in large cities than are United States schools in general.

Contrary to our findings in the California study, we found no relationship between age and receiving college preparation within Appalachia.

As would be expected, we found a negative relationship between age and the probability that a teacher had spent all of his teaching years in his present system. The proportions who have done so rise from less than one-half of 1% of those born before 1900 to 45.1% of those born between 1940 and 1949.

B. OTHER CHARACTERISTICS

In this section, we will describe some characteristics of Appalachian teachers.

Half of them have received their bachelor's degrees in the last ten years (1959-1969). Slightly more than a quarter received their bachelor's degrees before 1953. Of those teachers who have bachelor's degrees, 28.3% have them from private colleges, 62.8% have them from state colleges, and 1.2% received them from institutions other than private colleges or state colleges. 7.6% did not answer the question. Two out of ten Appalachian teachers have master's degrees. Of these, half have received master's degrees since 1962. The last five years have been particularly fruitful ones for the granting of master's degrees among Appalachian teachers; 1969 alone accounted for 14% of the master's degrees received. There is a clear rise over the years which one expects will continue. Among those who received their master's degree from a private college, the probability that they received it outside Appalachia was almost twice as great for those 30 or younger (9.4%) as for those over 30 (about 5%). Of those for whom we have information, two-thirds received their master's degree in a state college.

Slightly more than a third of Appalachian teachers are less than 30 years old, another sixth are between 30 and 40, 15% are between 40 and 50, 20% between 50 and 60, 8.6% between 60 and 70, and one-half of 1% are more than 70 years old.

Some teachers teach more than one grade. Approximately 10% of teaching assignments were in each of the grades nine through 12. Five to 6% of the teaching assignments were in each of the first through sixth grades. Less than three-tenths of 1% of Appalachian teachers have pre-kindergarten teaching assignments, and slightly more than 1% have kindergarten teaching assignments. There is evidence, then, that fewer than one-quarter of the children in Appalachia attend kindergarten. Slightly more than one-third of the teaching assignments are in Grades K-6; slightly fewer than two-thirds are in Grades 7-12. One percent of teaching assignments are in ungraded elementary schools and less than one-half of 1% in ungraded secondary schools.

On the average, each Appalachian teacher teaches 1.5 subjects. Subjects taught by at least 2% of Appalachian teachers include the following:

Subject	Percentage of Teachers
Art	3.1
Biology	2.7
Business Education	3.4
Elementary Education	10.8
English	12.9
Foreign Language	3.0
Geography	3.5
Health	5.1
History	7.4
Home Economics	2.4
Language Arts	5.3
Music	3.2
Physical Education	5.2
Reading	6.8
Science	7.4
Social Studies	6.3
Special Education	2.2

Twenty percent of Appalachian teachers are single, 70% are married, 5% are widowed, and 3% are divorced. Almost 2% did not give this information on their questionnaire.

28.5% of Appalachian teachers are men, 69.6% are women, and 1.9% did not indicate their sex.

Transportation to school does not seem to be a problem for Appalachian teachers. Using their usual means of transportation, 60.2% take less than fifteen minutes to get from their home to their school. Thirty percent take between 15 and 29 minutes, 7.3% take between 30 and 60 minutes, and less than one-half of 1% take more than one hour. 1.8% did not answer this question on their questionnaire.

In summary, then, the typical Appalachian teacher was born in Appalachia, went to high school there, received his or her bachelor's degree there, has taught in very few states and school systems, has a bachelor's degree but no master's degree, was born around 1930, and is married and a woman.

V. QUALITY AND RELEVANCE OF PREPARATION

A. PRE-SERVICE PREPARATION FOR TEACHING

How well prepared are Appalachian teachers, in terms of their education before they entered teaching, for their teaching careers? Slightly fewer than 89% of them have at least a bachelor's degree. Sixty-eight percent have exactly a bachelor's degree, 16% have exactly a master's degree, and 3% have a master's degree plus 30 semester hours of credit. Turning to those who do not have a bachelor's degree, 3.9% have four years of college but no degree; 3.7% have three years of college; 3.0% have two years of college; one-tenth of 1% have one year of college, and .5% have only a high school education.

We asked Appalachian teachers what kind of certification they have for the state in which they teach. Seventy-eight percent indicated they have received full professional (regular, minimum) certification. Another 13% indicated that they have less than complete certification: this goes by various names in various states: "emergency, temporary or interim permit, excuse in default of certificate, special license." Six tenths of 1% indicate that they have no certification. Eight percent did not answer the question. We suspect that a large portion of this 8% either have less than complete certification or have no certification at all. The proportion with less than a bachelor's degree (11%) is close to the proportion with less than complete certification or no certification at all (13%).

We asked how well courses and internship training in college in various areas meet the needs of present teaching assignments. For each area, teachers could say that:

they had received no course or training in the area

the area was irrelevant to their present teaching

training was inadequate

training was sufficient

training was more than they need, or

they had no opinion.

About 80% of the Appalachian teachers indicated that their training was sufficient in the following areas:

application of educational theory

teaching methods

training in subjects they teach

student teaching or internship.

In some other areas, the training which Appalachian teachers have received is inadequate. Only a third felt they had sufficient training in methods for teaching disadvantaged students. Forty-six percent never had a course in this area, and only 9% felt it is irrelevant to their present teaching responsibilities.

Only 28% felt they had sufficient knowledge of the vocational opportunities open to their pupils. Forty percent have never had a course in this area. Only 16% feel it is irrelevant to their teaching.

Finally, although almost 70% feel they have had sufficient training in curriculum planning and development, 15% have never had any training in this area. Slightly more than 1 in 20 feels it is irrelevant to their present teaching responsibilities.

We asked Appalachian teachers which subjects they teach. They also indicated:

college majors or areas of concentration

college minors or subjects in which they have
15 or more semester hours

subjects in which they have graduate credits

subjects in which they have a master's and/or
doctor's degree.

Table 5 shows the pre-service preparation of Appalachian teachers, grouped according to the subjects they teach. It also shows the percent of Appalachian teachers teaching each subject. (These percents add to more than 100, since many teach more than one subject.) Elementary teachers in self-contained classrooms were considered to teach only Elementary Education. For example, 0.8% teach Accounting, 59.3% of those who teach Accounting majored in that subject or a related subject in college; 25.6% minored in Accounting or a related subject in college or had 15 or more semester hours in it or a related subject; 17.6% have graduate credits in accounting or a related subject, and 3.1% have a master's or doctor's degree in the subject or a related one. There was considerable overlap among the preceding four categories. For example, many of those who had graduate credits in Accounting also majored in that subject in college. The last column of Table 5 shows the percentage of teachers of each subject who indicated that they had received one or more of the kinds of preparation for that subject described in the first four columns. Data for 43 subjects (excluding "other subjects") are given in Table 5. At least 75% of those teaching the following subjects have one or more of the kinds of preparation indicated:

Accounting	79.6%
Agriculture	98.1%
American Studies	77.3%
Biology	95.6%
Business Administration	93.3%
Chemistry	94.3%
Driver Education	80.6%
Early Childhood Education	90.2%
Elementary Education	88.1%
English	87.8%
Foreign Language	95.8%
History	81.3%
Home Economics	97.2%
Industrial Arts	91.9%
Journalism	88.5%
Physical Science	80.7%
Physics	85.9%
Social Studies	84.7%
Special Education	76.1%
Trade and Industrial Education	75.0%

Thus, in 20 of the 43 subjects, at least three-fourths of the teachers have some significant preparation. In the following subjects, fewer than half of the teachers have significant preparation:

Anthropology	33.5%
Forestry	41.8%
Geography	44.8%
Library Science	44.0%
Philosophy	43.9%

TABLE 5

PER CENT OF APPALACHIAN TEACHERS OF VARIOUS SUBJECTS WHO HAVE VARIOUS KINDS OF PREPARATION IN THE SUBJECTS OR RELATED ONES

Subject Taught	Percent Teaching	College Major	College Minor or ≥ 15 Sem. Hours	Graduate Credits	Master's or Doctor's Degree	Any of Preceeding
Accounting	0.8	59.3	25.6	17.6	3.1	79.6
Agriculture	0.6	89.0	16.1	46.4	28.7	98.1
American Studies	0.7	38.9	52.4	18.2	6.7	77.3
Anthropology	0.1	11.7	2.6	22.0	0.0	33.5
Art	3.1	42.1	17.0	21.3	7.3	60.3
Biology	2.7	84.3	46.7	40.6	15.0	95.6
Business Admin.	3.4	81.7	12.4	24.6	13.4	93.3
Chemistry	1.4	59.7	46.9	41.0	10.5	94.3
Counseling	0.2	14.5	30.9	27.8	21.9	68.8
Distributive Ed.	0.2	6.5	31.7	37.1	11.7	73.5
Driver Ed.	0.9	20.7	43.1	25.5	2.8	80.6
Early Child. Ed.	0.3	73.5	17.6	26.1	6.9	90.2
Economics	1.2	19.3	26.5	26.2	1.0	56.0
Education (Gen.)	0.1	26.3	25.8	11.4	11.3	66.7
Elementary Ed.	10.8	69.8	20.4	22.2	8.9	88.1
English	12.9	59.5	36.1	28.3	7.1	87.8
Foreign Lang.	3.0	70.0	34.9	29.5	8.9	95.8
Forestry	0.07	6.9	28.0	12.7	0.0	41.8
Geography	3.5	21.4	18.9	10.9	2.1	44.8
Health	5.1	35.5	27.8	11.9	3.3	54.5
History	7.4	51.2	29.1	23.9	7.6	81.3
Home Economics	2.4	92.0	7.4	33.5	13.6	97.2
Industrial Arts	1.8	78.5	18.5	33.2	16.8	91.9
Journalism	0.5	71.2	30.7	32.3	11.6	88.5
Language Arts	5.3	18.1	41.8	22.3	3.6	70.6
Library Science	0.2	31.6	16.8	22.0	4.5	44.0
Mathematics	0.02	42.6	18.8	23.5	4.5	63.8
Music	3.2	51.4	14.6	24.9	15.7	65.3
Philosophy	0.09	3.8	4.1	36.0	0.0	43.9
Physical Ed.	5.2	60.0	13.8	17.3	8.4	74.3
Physical Science	1.4	36.8	49.3	26.2	5.1	80.7
Physics	1.1	47.9	47.5	38.1	10.4	85.9
Pol. Sci.,Int. Rel.	0.9	33.4	23.9	23.6	2.1	66.3
Psychology	0.4	13.2	24.5	25.0	6.4	53.6
Reading	6.8	23.3	28.8	11.0	1.7	54.2
Religion	0.1	8.6	16.6	11.3	23.6	57.2
Science	7.4	36.0	49.9	20.3	3.5	69.4
Soc. Science	0.8	28.1	17.3	15.8	6.3	51.0
Soc. Studies	6.3	51.0	57.0	35.4	7.0	84.7
Sociology	0.6	20.0	23.5	16.5	2.5	52.0
Special Ed.	2.2	26.8	25.5	37.0	10.9	76.1
Speech-Drama	1.0	33.0	32.5	21.4	1.3	66.4
Trade and Ind. Ed.	0.5	48.9	25.8	22.8	9.4	75.0
Other Subjects	1.8	5.2	3.6	5.8	1.1	13.3

Thus, in only five subjects is it the case that fewer than 50% of those teaching the subjects have significant preparation for it. Table 5 also indicates that only one of these subjects, Geography, is taught by more than 2% of Appalachian teachers; it is taught by 3.5% of them. Thus, the subjects in which fewest teachers are prepared are those taught to the smallest number of students. However, there is no subject in which 100% of the teachers have received significant preparation. In 23 out of the 43 subjects, fewer than 75% of the teachers have received significant preparation. There is, then, considerable need for in-service training to upgrade the preparation of many teachers.

There is considerable range among Appalachian teachers with respect to when they last took courses for credit from a college. 15.8% took such a course within this present school year, with another 15% taking one last summer. An additional 25% took such a course within the last one or two years. Thus, slightly more than 55% have taken courses for credit from a college or university within the last two years. However, 17% last took such a course three to five years ago, another 11% six to ten years ago, another 13% more than ten years ago and 1% have never taken such a course.

A surprisingly large proportion, 24%, have attended college-conducted courses or institutes paid for by federal funds (e.g., NSF, NDEA, EPDA, etc.).

The Appalachian teacher compares quite favorably in terms of education with the New England teacher. As in Appalachia, about one in ten New England teachers has not earned a bachelor's degree.* Furthermore, about one New England teacher in four, similar to the 20% or so of Appalachian teachers, has earned a master's degree or higher.

The Appalachian teacher compares unfavorably with public school classroom teachers in the nation as a whole in 1967, as ascertained by the National Education Association.** Table 7 of Document 2 shows that 6.1% of United States teachers have no degree, 68.2% have bachelor's degrees only, and 25.8% have master's degrees or better.

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* Smith, C. F., A Regional Profile: The New England Teacher. Referred to hereafter as Document 1.

** Financial Status of the Public Schools, 1968, Committee on Educational Finance, National Education Association. Hereafter referred to as Document 2.

Another National Education Association publication shows, for 1965-1966, 7% having no bachelor's degree, and 23.3% having a master's degree or higher.*

However, Appalachian teachers' educational background suffers by comparison with that of California teachers in 1966-67. Among these, two-thirds of 1% did not have bachelor's degrees. Twenty-five percent have a master's degree or better.**

Appalachian schools appear to have a higher proportion of teachers with less than standard certificates than do schools in other states. In 1968 5.6% of the total teaching staff in the United States had less than standard certification,*** as compared with Appalachia's 13% plus some or all of the non-responding 8%.

Document 1 indicates that, like Appalachian teachers, the majority of New England teachers had earned college credit in the preceding two years. However, "a sizable minority (about 16%) of teachers had not completed a college course in seven or more years."

We thought that those who have not taken college credit courses in many years, or have never taken such courses, would be more likely than others to have taken in-service training recently, in order to fill the gaps left by nonexposure to college-level courses for many years. This was not so. Among those who, a) had never taken a college credit course, b) had taken one at least ten years ago, or c) had taken one last year, we found no significant differences with respect to the proportions of these groups who have taken in-service training within the last two years. The proportions vary within the narrow range of 59% to 64%.

In Appalachia, the highest level of education attained is related to the grade to which teachers are assigned. 16.8% of teachers in pre-kindergarten through sixth grade have no bachelor's degree. Those with no degree make up 6.3% of those teaching in grades 7-8 and only 4.2% of those teaching in grades 9-12. Conversely, the proportion with master's degrees or better is 13.5% in grades pre-kindergarten through sixth, 20.1% in grades 7 and 8, and 28.1% in grades 9-12. Similar distributions for both the proportion with less than a bachelor's degree and the proportion with a master's degree or more are found for United States teachers in Documents 2 and 3 and in Document 6 for California teachers.

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* The American Public School Teacher, 1965-66, Research Division, National Education Association, 1967. Hereafter referred to as Document 3.

** Morton, A. S., et al., Teacher Supply and Demand in California, 1966-1975, Arthur D. Little, Inc., Cambridge Mass., February 1967. Hereafter referred to as Document 6.

*** Fall 1968 Statistics of Public Schools, National Center for Educational Statistics, Washington, D. C., March 1969. Hereafter referred to as Document 4.

We compared those teaching various subjects, with respect to how they answered the question, "How well does your education in the subjects you teach meet the needs of your teaching assignment?" Summing over all teaching assignments, almost 79% of the answers indicated preparation "sufficient" or "more than I need." We looked for subjects where the combined proportion indicating these two answers was 69% or less, that is, 10% less than that for the combination of all subjects. We found only two. Only 67.6% of 707 teachers of special education indicated that their preparation in this area was sufficient or more than they needed. 5.4% indicated that they had no preparation and 13.8% that they had inadequate preparation. Similarly, only 54.6% of those teaching trade and industrial education indicated sufficient or more than adequate preparation. 16.2% indicated they had no course in the area, and another 15.5% said that they had inadequate preparation.

Table 6 shows the relationship of evaluations of usefulness of college courses in the application of educational theory as related to evaluation of in-service training in educational theory. The table is to be read going down the columns. For example, 20.2% of those who had no course in the application of educational theory in college similarly had no in-service training in this regard. Out of the same group who had no course in college, 3.3% consider such a course irrelevant to teaching. What is notable in Table 6 is the similarity in response for college and for in-service training. The more available or useful the college training was, the more available or useful in-service training is adjudged to be. Conversely, the less available or less useful college training was, the less available or useful in-service training in the application of educational theory is judged to be. Thus, in-service training is not filling gaps in college education.

Table 7 shows similar results for courses in teaching methods. Again, for example, those whose courses in this area in college were sufficient were far more likely (34.4%) to have had sufficient in-service training in this respect than, for example, those who had no such courses in college, of whom only 13.1% had sufficient in-service training.

Table 8 shows the same results for courses in teaching methods for disadvantaged students. For example, of those who had no such courses in college, 32% again had no such in-service training. By contrast, of those who had a sufficiency of such courses in college, only 11% had no such in-service training.

TABLE 6

ADEQUACY OF COLLEGE COURSES IN EDUCATIONAL THEORY, RELATED TO ADEQUACY OF IN-SERVICE TRAINING IN EDUCATIONAL THEORY

	College Courses							
In-Service Training	No Course	Irrelevant	Inadequate	Sufficient	More Than I Need	No Opinion	Blank	Total
No In-Service Training	20.2	16.0	15.5	11.0	12.5	13.4	6.6	12.0
Irrelevant to Teaching	3.3	9.8	5.0	3.4	5.0	2.6	2.3	4.0
Inadequate	8.7	12.8	20.4	13.3	10.1	11.9	7.7	13.5
Sufficient	9.1	13.5	15.1	29.0	23.2	11.5	13.5	23.6
More Than I Need	1.0	1.0	.6	1.0	5.6	.9	.6	1.1
No Opinion	9.0	6.5	4.8	5.2	4.7	18.3	3.6	5.7
Blank	48.7	40.4	38.7	37.0	38.8	41.5	65.8	40.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 7

ADEQUACY OF COLLEGE COURSES IN TEACHING METHODS, RELATED TO ADEQUACY OF IN-SERVICE TRAINING IN TEACHING METHODS

	College Courses							
In-Service Training	No Course	Irrelevant	Inadequate	Sufficient	More Than I Need	No Opinion	Blank	Total
No In-Service Training	14.6	9.6	9.1	6.6	7.1	6.7	4.1	7.3
Irrelevant to Teaching	2.6	9.2	4.5	3.1	3.2	2.1	2.5	3.6
Inadequate	14.3	19.1	26.6	16.8	13.2	13.4	10.6	18.4
Sufficient	13.1	21.3	20.1	34.4	28.8	17.5	17.3	29.2
More Than I Need	.4	1.1	.9	1.1	5.5	.5	1.0	1.3
No Opinion	6.1	3.4	2.6	2.7	3.6	14.8	2.4	2.9
Blank	48.9	36.3	36.2	35.3	38.6	45.1	61.9	37.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 8
ADEQUACY OF COLLEGE COURSES IN TEACHING METHODS FOR DISADVANTAGED, RELATED TO ADEQUACY OF IN-SERVICE TRAINING IN TEACHING METHODS FOR DISADVANTAGED

	College Courses							
In-Service Training	No Course	Irrelevant	Inadequate	Sufficient	More Than I Need	No Opinion	Blank	Total
No In-Service Training	32.0	17.5	15.1	11.0	12.5	10.3	6.7	18.0
Irrelevant to Teaching	3.5	16.1	3.3	3.7	3.9	2.1	2.2	4.0
Inadequate	12.5	12.2	31.2	19.1	15.2	10.4	9.9	20.4
Sufficient	4.2	6.7	8.4	24.2	16.5	7.7	6.6	10.1
More Than I Need	.4	.4	.5	.9	9.0	.9	.6	.7
No Opinion	6.1	6.2	4.7	5.4	4.5	26.9	4.4	6.3
Blank	41.2	40.9	36.9	35.7	38.2	41.7	69.7	40.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9 shows similar results with respect to the relationship between college and in-service training and courses in subjects taught. As an example, 16.6% of those who had no course in college in the subjects they teach have found sufficient in-service training in that subject. By contrast, 32.2% of those who had sufficient such training in college have again found sufficient training under the in-service context.

We found the same relationship (adequacy of college courses related positively to adequacy of in-service training) although tables are not shown, for the training teachers received about the the vocational opportunities available to their pupils and for their training in curriculum planning and development. The reader may ask whether these results come about because of response tendencies among individual respondents, that is, some respondents are likely to write "inadequate," no matter what the question. A subsidiary analysis argues against this. This analysis shows that if we take the response for in-service training as the independent variable and treat the distribution of responses for college training as the dependent variable, we do not find the pattern of similar answers for the two training sources that we found in the previous analyses.

Is there a relationship between the age of the Appalachian teacher and the length of time since which he has last taken a college course for credit? In fact, the younger a teacher is, the more recently he is likely to have taken a college credit course; this is true to a far greater extent than could be explained by the fact that those in the youngest age group have been in college fairly recently. 2.2% of those born between 1900 and 1909 have taken a college course for credit this year. the proportion in the 1910-1919 age group is 7.5%; it rises to 13.5%, 17.1%, and finally to 28.0% as we go by decades to the 1940-1949 age group. Conversely, 35.8% of those born between 1900-1909 have not taken a college course for credit in the last ten years. The proportion decreases to 25.5%, 17.5%, 6.0%, and finally to .01% as we go through succeeding decade age groups to the 1940-1949 age group.

We do not find the same relationship between age and the time since last in-service training. The latter seems to be unrelated to age.

B. IN-SERVICE PREPARATION

Respondents were asked whether college or graduate school courses on education methods and subject matter are available to them within 25 miles of their home or school. Five-sixths said that they were. In our California study (Document 6) only three-fourths had indicated that suitable courses were available within 25 miles of their home or school.

TABLE 9
ADEQUACY OF COLLEGE COURSES IN SUBJECTS TAUGHT, RELATED TO ADEQUACY OF IN-SERVICE TRAINING IN SUBJECTS TAUGHT

In-Service Training	College Courses							
	No Course	Irrele-vant	Inad-equate	Suf-ficient	More Than I Need	No Opinion	Blank	Total
No In-Service Training	17.3	8.9	9.1	8.7	11.7	6.0	5.7	9.1
Irrelevant to Teaching	1.6	7.8	3.3	2.5	2.7	3.1	2.1	2.7
Inadequate	19.5	22.9	28.7	19.4	16.9	15.7	12.1	19.8
Sufficient	16.6	23.6	22.0	32.2	23.3	23.8	18.2	28.9
More Than I Need	1.4	1.4	.8	.9	3.8	4.1	.8	1.3
No Opinion	4.0	2.0	2.1	2.3	2.7	10.0	1.7	2.4
Blank	39.7	33.5	34.0	34.0	39.0	37.4	59.3	35.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Teachers for whom courses were available within 25 miles of home or school indicated whether these courses are available at times convenient to them. 58.7% said that they were, 24.2% said that they were not, and 15.3% said that they did not know. The numbers are not much different from those found in California (Document 6), in which two-thirds indicated that courses were available at convenient times, and 15% said that they were not.

Almost 69% of those for whom courses were available indicated that some of these courses are relevant to their current teaching assignment. Twelve percent said that they are not, and 16% did not know.

More than two out of five Appalachian teachers are taking in-service training during the current school year (1969-70). More than 62% have taken in-service training within the last two years. However, 1.3% last took in-service training more than ten years ago, and 23.9% have never received in-service training. This latter number is far higher than the 8% of teachers who are new to teaching this year. Thus, approximately one out of six teachers is seriously out of touch with new developments in teaching.

In-service training is offered in the school systems of half the teachers in our sample and is not offered in the systems of the other half. We divided the sample population into three groups, according to the size of the city or town in which they teach: fewer than 5,000 inhabitants, 5,000 to 24,999 inhabitants, and 25,000 or more inhabitants. 43.2% of the teachers in the smallest towns have in-service training in their school system, 49.5% in the towns of middle size, and 58.9% of teachers in the largest towns have in-service training in their school system.

Respondents were asked how well in-service training in various areas that they have received in the state in which they are now teaching meets the needs of their teaching assignment. The areas and the evaluative answers paralleled those for the question discussed above which evaluated the usefulness of college courses. In general, far smaller proportions felt that in-service training was sufficient than thought that college courses were sufficient. Only 39% felt that in-service training in the application of educational theory was sufficient. Twenty percent had no in-service training in this area, and 22.5% felt that what they had was inadequate. Forty-seven percent felt that in-service training in teaching methods was sufficient, 29% felt that it was inadequate, and 11% have had no in-service training in teaching methods.

Only 17% feel that their in-service training in teaching methods for disadvantaged students has been sufficient. Thirty-four percent believe that it has been inadequate, and 30% have received no in-service training in this area. Forty-five percent received sufficient in-service training in the subjects that they teach, with 31% believing that their training was inadequate, and 14% not having had any in-service training in the subjects they teach.

Only 10% indicated that they have had sufficient in-service training about the vocational opportunities open to their pupils. Thirty-five percent have had no in-service training, and 26% indicated that they had inadequate training. Finally, 40% believe that they have had adequate in-service training in curriculum planning and development; 18% have had no such training, and 27.3% indicated that they have had inadequate training.

Table 10 shows how teachers responded when they were asked to indicate ways in which they think that in-service training (IST) should be improved. Many teachers marked more than one of these answers. Almost a quarter believe that their system should offer programs relevant to their level and/or subject area of teaching. A fifth believe that IST could be improved by scheduling it during the school day. Approximately 15% believe it could be improved by each of the following:

more follow-up should be provided at my school

the content of IST should be discussed with the teacher trainees before it is presented

people who teach IST programs should be better prepared

IST instructors should not be limited to local school system personnel

there should be flexibility in the length of IST programs.

Twelve percent or fewer believed that the following steps would improve IST:

my school system should appropriate more money for IST (11.8%)

no IST is available this year -- some should be offered (4.1%)

TABLE 10

PERCENT WHO THINK IN-SERVICE TRAINING CAN BE IMPROVED IN VARIOUS WAYS

Needs no improvement	5.0
Not enough experience to say	15.9
Schedule during school day	20.2
More follow-up	14.1
Prior discussion	16.7
Improve preparation	14.4
Draw instructors outside system	15.7
Flexible length of programs	14.1
More money	11.8
Programs relevant to me	24.7
None available	4.1
None of the above	1.6
Blank	7.0

One out of 20 teachers indicated that IST has been presented in an excellent way and that they cannot see how it can be improved. Sixteen percent felt that they had so little experience with in-service programs that they could not really say how IST could be improved. Almost 2% felt that none of the steps indicated could improve IST, and 7% did not answer the question.

Another way in which teachers can find out about recent developments in education is by working directly with student teachers, teaching interns, or Teacher Corps Interns. Only one-quarter of Appalachian teachers do so. Only one-sixth of teachers in the smaller towns (population less than 5,000) do so, compared to almost a third of the teachers in the larger towns (population 25,000 or more).

During the summer of 1969, 14% of Appalachian teachers took courses or training, and 5% participated in workshops. Thus, 19% received additional professional preparation last summer.

VI. EXPERIENCE AS A TEACHER IN APPALACHIA

What is it like to teach in Appalachia? The teachers' answers to that question are presented in this chapter. In particular, teachers' views of factors affecting their job choice, the continuity in their experience as classroom teachers, their hours of work and classroom environment, and their income from teaching and other sources are reviewed in this chapter.

A. FACTORS AFFECTING JOB CHOICE

The teachers, one-third of whom are under 30 years of age and two-thirds of whom are female, indicate that several factors influence their choice of teaching jobs and that the most important factors are different on subsequent jobs than they were on the first job the teacher chose. Teachers marked, first, as many different factors in their questionnaires as they felt were definitely influential in their decision to accept the job in the first public school system in which they taught. The number of influences varied from teacher to teacher. A teacher typically identified three definite influences on the job choice.

In the choice of their first teaching job, teachers identified being "near my parents or relatives or relatives" more often than any other reason for choosing their job. The next most frequently named reason is that the job took them to a "pleasant place to live." Third in frequency of mention is the influence that the job was in a "community close to where my husband or wife had a job or went to school."

Next in order of frequency of mention as reasons for choosing their first teaching job, teachers named

freedom to teach the way I think I should,

salary,

and guaranteed assignments to school, grade, or subject matter of choice.

At the next lower level of frequency of mention, and named by about one teacher in ten, are

availability of higher education facilities nearby,

low cost of living,

and my only offer was with this system.

Infrequently mentioned reasons for choosing the first teaching job, each reason being mentioned less than four times among 100 teachers, were

> quality of superintendent, principal, or administrative staff,
>
> my only job application was with this system,
>
> (my) college placement officer influenced me to take this job,
>
> and I would have the chance to teach disadvantaged children.

By the time the teacher in Appalachia chooses a new job subsequent to his or her first teaching job, the influences on choice have some of the same characteristics as for first job choice but now have important new characteristics.

The experienced teacher is influenced frequently to choose a job in a "community close to where my husband or wife has a job or goes to school." The choice of a job near parents or relatives is still important, but its influence is as much overshadowed by the influence of the spouse as the reverse was true in the choice of a first job location. Choosing a "pleasant place to live" is still frequently mentioned as an influence on the job choice.

Some significant changes have occurred as the teacher gains experience. The choice of a job subsequent to his first teaching job is still influenced by salary, the freedom to teach the way he thinks he should, and the guaranteed assignment to a school, grade, or subject matter of his choice. This time, however, the "quality of superintendent, principal, and administrative staff" has increased significantly in frequency of mention as an influence on job choice, and this characteristic now equals in importance the freedom to teach the way he thinks he should and the particular assignment to school, grade, or subject matter which the teacher may be given.

Teachers mention very frequently that, at the time they chose their subsequent job, "my only [job] application was with this system."

While being "near my college" was mentioned only moderately often as an influence on the choice of the first teaching job, this influence seems to have dropped altogether from consideration in choice of a subsequent teaching job. In the same way the college placement officer remains an infrequently mentioned influence in the choice of a job by an experienced teacher. The ties with the college where the teacher received his training clearly are minor influences if they are present at all in his choice of a teaching job subsequent to his first teaching job.

It seems clear that the experienced teacher is influenced in his job choice by family, usually spouse's job location, and by salary and job content. Now, however, it is equally clear that the experienced teacher selects a teaching job and is very sensitive to the quality of the superintendent, principal, and administrative staff. The experienced teacher has learned to select his supervisors.

B. CONTINUITY IN TEACHING EXPERIENCE

Teaching is a profession which, unlike many professions, experiences both a high dropout rate and a moderately high reentry rate. Women become teachers, interrupt their teaching career while their children are young, and return to teaching. Among the classroom teachers in Appalachia, two-thirds have been teaching continuously from the time of their first teaching job until the time they responded to our questionnaire. Since one in five respondents had three years' or less teaching experience in public schools, and assuming that their experience has been continuous, we can estimate that approximately 60% of the classroom teachers with four or more years experience have been teaching continuously since their first teaching job while approximately 40% of the teachers with four or more years teaching experience have interrupted their teaching career to follow some other personal or professional activity (other than during the summers) and then have returned to teaching. This common career pattern suggests that there is an important supply of qualified, experienced teachers among housewives.

Classroom teacher experience in Appalachia is shown in Table 11. There was a higher "no answer" rate for these questions than was typical for the other parts of the questionnaire.

If we assume, even though the assumption is oversimplified, that a teacher enters his profession at age 20 and remains continuously employed until age 65, his teaching career lasts for 45 years. Under those circumstances 7% of all teachers would have three years or less teaching experience and 55% would have teaching experience of twenty-one years or more. Obviously the data in Table 11 indicate that teachers with three years' experience or less occur three times more often than would happen if our assumption about a continuous career with no attrition were reasonable. The assumption obviously is not reasonable. The exercise demonstrates the very high dropout rates which occur in the careers of classroom teachers. Although Appalachia does experience the high dropout rate common to the career of the classroom teacher, it does not experience dropouts at the rate that they occur in other parts of the United States.

TABLE 11

TEACHER EXPERIENCE IN THEIR TEACHING CAREER, IN THEIR STATE, AND IN THEIR SCHOOL SYSTEM

(showing percents)

Years of experience...	...In the school system where they now teach	...In the state where they now teach	...In public school teaching
0 - 3	27	22	21
4 - 10	22	23	24
11 - 20	18	18	20
21 and over	14	22	22
No answer	19	15	13
TOTAL	100%	100%	100%

Document 3 indicates that in 1965-6 the median American public classroom teacher had eight years of full-time teaching experience. The same source indicates that the median teacher in the Southeast has 11 years of full-time teaching experience. Taking the median point for those for whom we have information in Table 11 indicates an average of ten years of experience in public school teaching. Thus, the typical Appalachian teacher stays in the teaching career longer than the typical teacher nationally. The New England teacher has even fewer years of experience in public education, 6-1/2, as indicated in Document 1.

Of that 1/3 of teachers who have had gaps in their teaching career, 55% carried out homemaking responsibilities during the break. 11.5% went to college or graduate school, and 17% pursued some other occupation. Approximately 3% took time out in the Armed Forces, took responsibilities in school counseling, administration, or supervision, or were kept out of school by their own illness or that of someone in their family, respectively.

We have evidence that female teachers leave teaching while their children are young. About one-fourth of the teachers who are married have no children. Forty-four percent have youngest children eight years old or older, i.e., old enough to be in school. Only 11% have youngest children under three, 8% have a youngest child between three and five years of age, and 5% have a youngest child age six or seven.

Data about teacher experience in Appalachia shows a pattern of classroom teacher career dropouts common to the profession throughout the nation, but at the same time the data show that Appalachia experiences slightly more career stability for the classroom teacher than is found in other parts of the nation. This is coupled with less teacher migration into the state in which he is teaching and less teacher migration within the state and region in which he is teaching than is common in other parts of the United States.

C. THE TEACHER'S JOB AND CLASSROOM ENVIRONMENT

The teacher's job and classroom environment include the class size, number of subjects taught, time spent in various duties, the kinds of help available, and a variety of physical features such as those represented by materials and classroom facilities. These aspects of the teacher's job in Appalachia are described by the teachers.

Teachers reported the average size of the classes they teach. Between one-half and two-thirds of the teachers reported their average class size between 26 and 35 students. Document 3 indicates that 64% of teachers nationally had between 25 and 34 pupils in their classes. Thus, the Appalachian number of students per teacher is close to the national average. California teachers, according to Document 6, also have similar pupil-teacher ratios to Appalachian teachers. Sixty-three percent of California teachers have class sizes between 26 and 35. There is some tendency for high school teachers (grades 9-12) to have slightly smaller classes than those at the earlier grade levels. About 2% of the teachers report their average class size to be 41 students or more.

We see in Table 12 that the median number of hours spent per week in school by Appalachian teachers is 37, indicating 7.4 hours per day. This is almost exactly the median amount spent by American teachers, according to Document 3. The teachers were not asked to estimate the time they spend at home in work directly related to duties at school. Ten percent or more of the teachers report spending 50 hours or more each week in classroom teaching, preparation for classroom teaching, and other duties at school.

With respect to help, one teacher in four reports that he works directly with a student teacher, and 46% report that there are teachers' aides in their schools. Typically there is less than one teacher aide for five teachers, and their duties are largely clerical duties, either in class or out of class. In the schools which have teachers' aides, 4% of the teachers report that teachers' aides in their school "help pupils individually in instructional matters." Teachers report that the ideal ratio of aide to teachers is one aide for every teacher or one aide for every two teachers.

TABLE 12

HOURS SPENT IN TEACHING AND OTHER DUTIES

Duties	Median hours spent each week	10% of teachers report spending fewer hours than	10% of teachers report spending more hours than
Classroom teaching	26	7	33
Preparing in school for classroom teaching	6	2	10
Other duties, such as cafeteria, study hall, counseling, library, administrative, or supervisory duties	5	0	10

The oldest part of the building in which the teacher teaches is reported by 25% of the teachers to be 9 years old or less and by 40% of the teachers to be 30 years old or older. The newest part of the building where Appalachia's teachers teach is reported by 51% to be 9 years old or less and by 15% to be thirty years old or older.

With respect to the physical facilities of the schools in Appalachia, 40% or more of the teachers regard cooling, recreation spaces and facilities, noise control, auditoriums, health facilities, electrical outlets, the physical setting of the library, and the lunch room to be less than adequate. With respect to instructional facilities and material, 40% of the teachers or more regard language laboratories, science laboratories and equipment, audio-visual materials and equipment, and library materials to be less than adequate. These findings are summarized in Table 13.

In summary, the teacher's job and job environment in Appalachia are reported as often requiring more than 40 hours of work per week with little help from aides, lacking both the large classes and the small classes which characterize the new teaching methods of the last decade, and being performed in physical facilities with instructional facilities and materials that are often judged less than adequate. The teacher who made these judgments were typically educated in Appalachian schools, and their job experience typically has not exposed them to facilities in other parts of the country.

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TABLE 13

TEACHERS' VIEWS OF ADEQUACY OF FACILITIES AND SUPPLIES
(Percents)

Teachers judging physical facilities as "inadequate" or "needed but not present"

21%	lighting
22%	water supply
24%	heating
34%	classroom size
37%	toilet facilities
37%	ventilation
42%	lunch room
44%	library (physical setting only)
47%	electrical outlets
48%	health facilities
51%	recreation spaces and facilities
57%	auditorium
58%	noise control
68%	cooling

Teachers judging instructional facilities and materials as "inadequate" or "needed but not present"

30%	supplies (paper, pencils, etc.)
32%	textbooks
43%	library materials (books, periodicals, etc.)
45%	audio-visual equipment (projectors, tape recorders, etc.)
47%	audio-visual material (maps, charts, films, etc.)
50%	science laboratory and equipment
50%	language laboratory
52%	science equipment

D. TEACHERS' INCOME

The median income for classroom teaching (and other assigned duties during the school day) during the period September 1968 through August 1969, excluding salary earned for teaching summer school in 1969, was about $6,500. Median salary was sensitive to the size of the town in which Appalachian teachers taught. In towns with fewer than 5,000 inhabitants, the median annual was about $6,300. In larger towns and cities, it was about $6,800. Half the respondents report that this income comprised most of their family income for that period. Half the respondents indicated that their spouse had paid employment during the same period of time. The income for classroom teaching at the 10th percentile was approximately $5,100 and the income at the 90th percentile was about $9,200.

"Taking courses of training" was the most frequently named summer activity for 1969, and "worked at a job other than classroom teaching" was the second most frequently named summer activity. Other activities, in the order of their frequency of mention, were "taught summer school," "carried out homemaking responsibilities," "rested and/or travelled," "participated in workshops," "planned curricula without pay," and "planned curricula for pay."

Summer activities for the men were much more likely to be income-producing or to consist of courses which could be viewed as income-producing over the course of a career. Men were six to seven times as likely as women to work at a job other than classroom teaching during the summer. Men were twice as likely as women to take courses or training during the summer or plan curricula for pay during the summer. Men were half again as likely as women to teach summer school. Among both men and women, those earning income above the median were slightly more likely to "rest and/or travel" or "carry out homemaking responsibilities" than were teachers with incomes below the median.

While teachers in Appalachia are receiving lower incomes for teaching than are teachers in other parts of the country, and while they tend to spend their summers in income-producing activities or activities which lead to an increase in career income, it is also true that they tend not to be job mobile in ways which would take them to other parts of the country and to higher salaries. These findings have important implications both for the production of teachers in the colleges and universities and for the content and quality of their training, since it seems likely that their training in the colleges of education will be fed back to the schools in or near the communities in which they themselves received elementary and secondary education.

VII. FACTORS IN RETENTION

What attracts a teacher to a district? What keeps a teacher there? How can we keep people in the teaching profession and not lose them to other occupations? The answers to these questions will help us to maintain an adequate supply of teachers in Appalachia. Hopefully they will also show school districts how to keep their best teachers and thus maintain and improve the quality of teaching in Appalachia.

A. REASONS FOR LEAVING THE TEACHING PROFESSION OR A SCHOOL SYSTEM

1. Reasons for Leaving Teaching

We asked Appalachian teachers whether they know anyone well who was teaching in their state who left public classroom teaching recently. Almost half of them indicated that they know such a person. One-fifth of those who left did so in order to retire. Almost another fifth left to become full-time homemakers. Between 3% and 7% of those who left did so for the following reasons:

not known to the respondent

to go into the Armed Forces

to take a non-classroom teaching position in a school system

to take a position in a federal program (e.g., compensatory education).

Fifty-one percent of those who left, contrasting with 30% of present teachers, were male. Thus male teachers are more likely to leave than are female teachers. Twenty-six percent were between 20 and 25 years old, 30% between 26 and 30, 18% were 31 to 40 years of age and 26% over 40. By comparison, only 34% of present Appalachian teachers are between 20 and 30, and 18% are between 31 and 40. Thus, those who leave are much more likely to be younger, in their twenties, than those who stay.

Why did they leave? The most common reason, for 40%, was that the salary was too low. Next most common, given by 24%, were personal reasons unconnected with the school system or the community (e.g., military service, illness, spouse's job transfer, had to move, etc.). Next most common, 11%, were problems presented by the principal, with problems presented by pupils (10%) following closely. Little opportunity for professional development and classes being too large, each given by 9%, came next in order of frequency. Personnel practices of the school system came next with 7%. Community political climate and problems presented by the superintendent followed with 6%, as did lack of teaching aids, materials and equipment, and the high cost of living. Twenty percent of those who left were believed to have left for none of the reasons included. The following reasons for leaving were indicated by 5% or fewer of the respondents:

community too dull

contract was terminated or asked to resign

housing problems

lack of social opportunities

no opportunities for originality

problems presented by parents

transportation problems

invasions of personal privacy by district or community

differences in religious views between the teacher and most of the community

he or she was not an "insider"

not much freedom to teach the way he or she wanted

too far from college or university

preferred more rural environment

preferred more urban environment

other teachers too provincial.

Among those who left who were 20 to 25 years old, 56% were men, significantly larger than the proportion among all who left and the proportion of men now teaching. In the 20 to 25-year-old group, 28% of the men left because their salary was too low. This was true of only 10% of the women who left in this age group. By contrast, 24% of the women in this age group, but only 7% of the males, left for personal reasons. Four percent of the men in this age group, but only 1% of the women, left because of the high cost of living.

Among those who left who were age 26 to 30, 71% were men. As with the previous age group, women were almost ten times as likely as men to leave for personal reasons (31% versus 3.7%).

Salary being too low was again three times as common a reason for men as for women.

We found similar differences between men and women in the group who were 31 to 40. The group who left who were 40 and above was quite different. First, 78% of them were women. Nineteen percent of the women and 10% of the men left for personal reasons; 6% of the men and 2% of the women left because of the community political climate. Six percent of the men and 2% of the women left because of problems presented by the supervisor; 15% of the men and only 5% of the women left because their salary was too low. Twenty-one percent of the men and 36% of the women left for reasons that were not listed, implying, we believe, that they left to retire.

2. Reasons for Leaving A System

We asked those who had changed school systems during the course of their teaching careers to indicate reasons that definitely led them to leave the system in which they taught prior to coming to their present system. In the discussion below, the base line of the percentages will be the total number of reasons given. More than one-fourth of these were personal reasons unconnected with the school system or community (e.g., military service, illness, spouse's job transfer, had to move, etc.). The next most common reason was that the salary was too low; this makes up almost 8% of the reasons. The next most common (4.7%) was the existence of a transportation problem; 4.3% of the reasons mentioned referred to lack of teaching aids, materials, and equipment; 4.1% of the reasons mentioned referred to little opportunity for professional development. Many other reasons among the many multiple-choice answers were checked by at least some teachers, but not in great enough numbers to make these reasons seem important.

B. SATISFACTIONS AND DISSATISFACTIONS

1. The General Picture

We asked Appalachian teachers to indicate those aspects of their school system and community that definitely contribute to their satisfaction in teaching there and make them wish to stay. Teachers were able to and often did mark more than one aspect. We list below those aspects checked by more than 50% of the teachers, with the percentage indicated:

respect from other teachers, 70%

freedom to teach in my own way, 69%

teaching subjects in which I am trained, 67%

respect from the community, 56%

respect from school administrators, 55%.

Three additional factors are worth mentioning, even though they were checked by only 40% to 50% of teachers:

quality of fellow teachers, 46%

I was born and/or raised in this region, 42%

small community, 40%.

Only 2% of the teachers indicated that none of the aspects listed makes them wish to continue teaching in their present school system and community.

We compared the proportions indicating satisfactions in our Appalachian sample and in a similar sample in California (Document 6). In most cases, the percentages were very similar; in the following cases, the differences were 10% or greater. Among reasons for satisfaction, 56% of Appalachian teachers but only 46% of teachers in California checked "respect from community." Sixty-seven percent of Appalachian teachers but only 56% of California teachers checked "teaching subjects in which I am trained." Thirty-three percent of California teachers but only 22% of Appalachian teachers checked "opportunities for professional growth." Thirty-nine percent of Appalachian teachers but only 27% of California teachers were influenced to stay in their system by "pupil discipline and order." Thirty-two percent of California teachers but only 20% of Appalachian teachers checked "tenure investment in the system." By contrast with the items mentioned here, there were 20 items to which California and Appalachian teachers responded very similarly.

Teachers similarly were asked to mark those aspects of their school system and community that definitely contribute to their dissatisfaction in teaching there and make them wish to leave. The most frequently checked answer, marked by 32% of the respondents, was that "none of the above makes me wish to leave." The following are other responses checked by at least 10% of the respondents:

too much "red tape" involved in getting things done, 24%

lack of community respect for teachers, 15%

poor fringe benefits, 15%

lack of pupil discipline, 15%

lack of respect from school administrators, 13%

low prestige of teachers among pupils, 12%

the superintendent does not protect from outside pressures, 12%

few opportunities for professional growth and development, 12%

poor cultural background of pupils, 13%.

2. Satisfactions and Dissatisfactions for Subgroups

Older teachers are more likely to be completely satisfied with their system than are younger teachers. As we go from teachers born between 1900 and 1909 in decade groups to teachers born between 1940 and 1949, the percentage of those who indicate that none of the aspects of the school system dissatisfies them decreases monotonically from 21% to 6%. Specific dissatisfactions are related to teachers' sex, salary, experience, age, and education, as we will discuss below.

Male teachers were twice as likely as female teachers to indicate that poor fringe benefits dissatisfied them. Male teachers were 1-1/3 as likely to indicate that poor opportunities for professional growth dissatisfied them. They were twice as likely as female teachers to indicate dissatisfactions with few opportunities for positions in administration and counseling. Female teachers were more than 1.6 times as likely as male teachers to indicate that long hours dissatisfied them. However, in general female teachers are less dissatisfied than male teachers. Twice as many female teachers, proportionately, as male teachers were likely to indicate that none of the factors listed makes them wish to leave their school system.

The longer a teacher has taught, and the higher his or her salary is, the less likely he or she is to be dissatisfied with teaching subjects in which he or she is not trained. Dissatisfaction was almost six times as common among those who did not teach in the previous year (who have low salaries) as among those who earned between $10,000 and $12,000 for teaching in 1968-69 (who are more experienced). The same dissatisfaction was almost five times as common among those who earned under $3,000 in 1968-69 as among those who earned between $10,000 and $12,000. Thus, we have evidence that superintendents and principals assign the younger and less well-paid teachers to teaching assignments for which they are not prepared, compared to the assignments of older and better-paid teachers.

Those who did not teach in the previous year are more than twice as likely as other teachers to be dissatisfied with the dullness of their school. The higher a teacher's salary, the more likely he or she is to be dissatisfied with few opportunities for positions in administration and counseling. The proportionality is a factor of two between those earning between $10,000 and $12,000 and those earning under $3,000 a year.

Various other dissatisfactions are related to experience. Dissatisfaction about the low prestige of teachers among pupils is 1.5 times as likely to be expressed by teachers with one to three years' experience in the public schools as by teachers with 41 or more years of public school teaching experience. Lack of freedom to teach in their own way is almost five times as likely to be indicated by those who have taught one to three years as by those who have taught 41 or more years. Teaching subjects in which the teacher is not trained is three times as likely to be expressed as a dissatisfaction by those with one to three years of experience as by those with 41 or more years of experience. The same ratio holds for these two groups with respect to dullness of school. Teachers with between one and 15 years of experience are twice as likely as teachers with 41 or more years of experience to express dissatisfaction with few opportunities for professional growth and development. Dissatisfaction with the smallness of the community is expressed between four and five times more often by teachers with one to three years of experience than by teachers with 21 or more years of experience. Similarly, dissatisfaction with the dullness of the community is four times as likely to be expressed by teachers with one to three years of experience as by teachers with 31 or more years of experience. In a related trend, teachers with one to three years of experience are twice as likely as those with 16 or more years of experience to express dissatisfaction and a force toward leaving because they were not born or raised in the region. Teachers with one to three years of experience are three times as likely as those with 31 or more years of experience to express dissatisfaction with little tolerance and acceptance of teacher individuality in the school and the community. For the same two groups, the ratio of the proportions indicating dissatisfaction with traditional approaches in school and little hope for change is almost three to one.

In general, percentages of each experience group indicating that none of the aspects listed makes them wish to leave their school system increases with experience, almost monotonically, from 7% of those with one to three years of experience to 20% of those with 41 or more years of experience.

C. INTENTIONS TO REMAIN IN THE SYSTEM

1. Intentions to Remain in the Same System-General

We believe that the satisfying and dissatisfying aspects of the present school system combine to determine teachers' plans for what they will be doing two or three years from now. Fifty-two percent intend to teach in the same school and 5% in a different school but within the same system. Five percent intend to teach in another public school system, 3% in a junior or four-year college. Some plan to change their occupation. Almost 3% intend to become school administrators/supervisors/counselors; almost 7% intend to become full-time homemakers. Nearly 3% intend to pursue some occupation not mentioned so far. Another 2% intend to return to school. Fourteen percent are undecided, 3% indicated "none of the above," and 3% did not respond to the question. Thus, in summary, almost three out of five Appalachian teachers intend to be teaching public school in the system they are now teaching in. Two-thirds intend to work within some form of education, although this may be a different system or at a different grade level or at a different level of responsibility from that at which they are now. The proportions of Appalachian teachers giving the following responses in the question discussed above were very similar to those of California teachers in Document 6:

teaching in the same school

teaching in a different school in the same system

teaching in another public school system

becoming a school administrator/supervisor/counselor.

There are some answers, however, which were differentially applicable to the Appalachian and the California teachers. About 8% of California teachers, compared to only 3% of Appalachian teachers, intend to teach at a junior or a four-year college. About 7% of Appalachian teachers, but only 2% of Californians, intend to become full-time homemakers. About 11% of California teachers, but only 3% of Appalachian teachers, intend to go into another occupation other than teaching. Finally, however, the proportion of undecided, 14% among Appalachian teachers, was much higher than that among California teachers (0.1%). This may be somewhat balanced out by the 12% of California teachers giving no response, compared to the 3% no response rate among Appalachian teachers.

Teachers who gave any answer other than intending to work in the same system were asked which two of eight incentives would do the most to keep them in their present school system. They were then asked which two incentives would make least difference to them. Thirty-one percent of those considering leaving their system indicated that 10% higher salary would do the most to keep them in their present system. Eighteen percent gave the same answer for "one more period during the day for preparation," and "10% smaller classes," respectively. Fifteen percent checked "district pays all fringe benefits." Eleven percent checked each of the following:

more help from teacher aides

more professional support (guidance
counselors, psychologists, etc.)

none of these makes any difference.

Ten percent checked each of the following:

more chance for professional development

building improvement.

Finally, 7% did not respond to the question.

The importance of salary as an incentive for keeping teachers in a system was underlined by the fact that only 4% indicated that it was an incentive that would make the least difference to the teacher. By contrast, for example, 20% indicated that "more help from teacher aides" would make the least difference in holding them in their present system. Another 20% said "building improvement" was equally unimportant to them.

2. Intentions of Various Subgroups to Remain in the Same System

There is some tendency for the least educated teachers to be more likely to remain with their present school system than the more educated teachers. Seventy-one and 82%, respectively, of those with high school and one year of college intend to remain in the same system. These are very small groups, however. About 60% of those with at least two years of college have the same intention. The proportion indicating plans to teach in a junior or a four-year college in the next two or three years increases monotonically with the amount of education, from less than 1% of those with less than a bachelor's degree to 2% of those with a bachelor's degree, to 29% of those very few people with doctor's degrees. Six percent of those with master's degrees have this intention.

There is a curvilinear relationship between age and intentions to stay in the same system. About 52% of those born before 1910 intend to do so, 80% of those born between 1910 and 1919, 78% of those born between 1920 and 1929, 63% of those born between 1930 and 1939, and 34% of those born between 1940 and 1949. The last group is especially likely (13%) to plan homemaker responsibilities or (23%) to indicate that they are undecided.

Fifty-four percent of the men and 59% of the women intend to teach in the same district two or three years from now. Six percent of the men but only 1% of the women intend to teach in a junior or four-year college; 7% of the men but only 1% of the women intend to go into school administration. Ten percent of the women intend to assume homemaker responsibilities. Six percent of the men and 2% of the women intend some occupation other than those mentioned.

The proportion who intend to continue in their present system is related to salary. Thirty-three percent of those who did not teach last year intend to teach in the same system two or three years from now. Thirty-eight percent of those who earned under $3,000 teaching in the year from September 1968 to September 1969 intend the same. The proportions with this intent increase, with some reversals, through 59% for those who earned $7,000 to $7,999 last year to 72% of those who earned over $12,000 last year.

As we would expect, the proportion of those intending to remain in the same system increases with an increase in the number of years they have taught in public schools, until teachers get close to retirement age. This proportion goes from 35% for those with one to three years of teaching experience, to 77% of those with 21 to 30 years experience. It drops to 38% of those with 41 or more years of teaching experience. A similar relationship is found between plans for two to three years from now and the number of years taught in the present system.

D. FACTORS IN TEACHERS LEAVING AS INDICATED BY STEP-WISE MULTIPLE REGRESSION PROCEDURE

We wanted to see whether there are aspects of school systems and their communities which are related to the proportions of teachers who leave those systems. We had no data on the actual attrition ratios, but we did have answers to a question which asked what the teacher plans to be doing two or three years from now. In each school system with at least ten male or at least ten female teachers, we computed the proportion who intend to do something other than teach within the same system. These answers included those who intend to teach in another public school system, teach in a junior or four-year college, become a school administrator/supervisor/counselor, become a full-time homemaker, go into an occupation other than teaching, return to school, are undecided, or have a plan which is not described in the above categories. There were 178 schools or systems (primary sampling units) which had ten or more male teachers. There were 286 systems or schools (primary sampling units) which had ten or more female teachers. Separate analyses were carried out for the male and for the female teachers.

In each analysis, the percentage of teachers in the primary sampling unit who intend to do something other than teach in their system two or three years from now was correlated with a number of other variables. These variables are indicated below in Table 14.

After these variables had been correlated with one another, we carried out the step-wise multiple regression procedure separately for the districts with at least ten male teachers and for the districts with at least ten female teachers. In step-wise multiple regression, we find out those independent variables (numbers 2 through 80) which most closely relate to the dependent variable (number 1). In the first step, a computer program finds the independent variable with the highest correlation with the dependent variable. It derives a new correlation matrix that shows the correlations of the remaining independent variables with the dependent variable, with the first most closely related independent variable held constant. In the second step, the program identifies the variable in the remaining partial correlation matrix which correlates most closely with the dependent variable. In each step, a new independent variable is added to the list of those most closely correlated with the dependent variable, with the previously identified independent variables held constant.

In each step of the step-wise multiple regression procedure, the program computes a coefficient for each independent variable in the list and an additive constant. Multiplying the coefficient times the value of the independent variable and

TABLE 14

VARIABLES USED IN STEP-WISE REGRESSION PROCEDURE

Variable Number	Variable Description (All data refer to primary sampling units.)
1	Percentage of teachers in primary sampling unit who intend to do something other than teach in the same system two or three years from now.
2-36	Answers to question 48. Percentage of teachers in the primary sampling unit (PSU) who indicated that aspects of their school system or community definitely contribute to their satisfaction in teaching there and make them wish to stay there.
37-72	Answers to question 49. Percentage of teachers in a primary sampling unit who indicated that aspects of their school system or community definitely contribute to their dissatisfaction in teaching there and make them wish to leave.
73	Average class size (question 34).
74	Percentage of working time spent in classroom teaching (questions 35-37).
75	Percentage of working time spent in school in preparation for classroom teaching (questions 35-37).
76	Percentage of working time spent in carrying out assigned duties other than classroom teaching (questions 35-37).
77	Number of physical facilities in the school building judged inadequate for pupil and teacher comfort and education needs (question 41).
78	Number of kinds of instructional facilities and materials in the school judged inadequate for the educational needs of pupils and teachers (question 42).
79	Average teacher salary in the primary sampling unit (question 63).
80	Income of county in which primary sampling unit is located.

adding the sums of the weighted independent variables to the additive constant gives the best possible estimate, for the independent variables used, of the dependent variable. The program also computes the multiple correlation between actual and estimated dependent variable and the square of that multiple correlation (R^2). The latter statistic indicates the proportion of the variance of the dependent variable which has been accounted for by the independent variables listed in that step.

If prediction is completely accurate, R^2 is 1.0. If the independent variables cannot account at all for the variance of the dependent variable, R^2 will be 0.0. The program continues until additions to R^2 are insignificant.

In both the male and female samples, as in many instances of the use of step-wise multiple regression procedure, R^2 rises quite quickly in the first few steps and quite slowly thereafter. In the case of the male sample, the procedure stopped with the 78th step; R^2 was 0.6383, with R being 0.7989. In the female sample, the procedure stopped with the 75th step, with R^2 being 0.5801, and R at 0.7616. Because so many of the variables were included, we shall discuss below in Table 15 only the variables identified in the first fifteen steps. In the male sample, R^2 at this point was 0.4649, with R being 0.6818. In the female sample, after step fifteen, R^2 was 0.4279, with R being 0.6541.

Table 15 shows the variables which were among the top fifteen in either the male or the female sample or in both. It shows the number of the variable, its title, whether the sign of its coefficient was plus or minus, whether it was among the first five variables identified as closely correlated with a dependent variable in each sample (signified by T), and the category of variable to which it belongs. The sign of the coefficient indicates whether, when the other identified variables are held constant, the independent variable is correlated positively or negatively with the dependent variable, the percentage of teachers intending to leave their school system. These coefficients and the correlations underlying them represent association. They do not prove causality. We have examined each relationship on its own merits and in the context of known relationships among the variables, and we indicate below our judgments (and the reasons for them) about whether the presence or absence of a given variable in a school system causes a higher percentage of intentions to leave that system.

We shall discuss Table 15 in terms of some categories of variables found in it:

TABLE 15

VARIABLES INCLUDED IN 15 INITIAL STEPS OF STEP-WISE MULTIPLE REGRESSION PROCEDURES TO ACCOUNT FOR PERCENT OF TEACHERS INTENDING TO LEAVE SCHOOL SYSTEM

Variables 2-36 are based on percentages of teachers satisfied with aspects of systems.
Variables 37-72 are based on percentages of teachers dissatisfied with aspects of systems.

Variable Number	Sign of Coefficient, Whether in Top 5		Variable Title	Type of Variable
	Male	Female		
8		-	Superintendent protects teachers	Supervision
10	-T		Teaching subjects in which trained	Supervision
11		+	Responsibility for training student teachers	Rural
19		-T	Parents cooperate with school	Community
25	+		Professional competence of department heads	Supervision
30		-	Tenure investment in system	Time
31		-T	Closeness to retirement age	Time
32	-T	-T	Born or raised in region	Rural
34		-	Close home-school relationship	Community
36	-T		Traditional approaches in school	Rural
38		-	Lack of community respect for teachers	Community
42	+		Lack of personal interest by principal	Supervision
44	+		No freedom to teach in own way	Supervision
48	+T		Poor fringe benefits	Economics
49		+	Few opportunities for professional growth	Supervision
54	-		Parents uncooperative with school	Community
56	-		High cost of living	Economics
61	+	+	Lack of pupil discipline	Pupils
62	-		Poor cultural background of pupils	Pupils
64	+		Dull, unexciting community	Community
67	+T		No close relationships between school and home	Community
68		+T	Little tolerance of teacher individuality	Community
70	+		School system moving too fast	Rural
72		+	Community feuds	Community
77		+	Number of physical facilities judged inadequate	Facilities
78		-	Number of educational facilities judged inadequate	Facilities
79	-		Teacher salary	Economics
80		+T	County income	Rural

Community

Supervision

Time in the school systems

Rural systems

Economics

Pupils

Facilities.

1. Community

Variable 19 was among the top five identified for female teachers. Where parents cooperate more with the school, female teachers are less likely to intend to leave the system. We have a contrary result, however, for Variable 54. For male teachers, the more they express dissatisfaction that parents are uncooperative with their school, the less likely they are to intend to leave. We are not able to resolve this apparent discrepancy. Variable 34 indicates for female teachers that where they are satisfied with close home-school relationships, their proportion intending to leave the system is low. Variable 38 indicates that the more female teachers are dissatisfied with lack of community respect for teachers, the less likely they are to intend to leave the system. We do not know why this variable was related to the dependent variable in a way opposite to that which we expected.

Variable 64 indicates that the more teachers are dissatisfied with a dull and unexciting community, the more likely male teachers are to want to leave that community's school system.

Variable 67 indicates a result for male teachers that parallels the results of Variable 34 for female teachers. The more male teachers are dissatisfied with the lack of a close relationship between school and home in their community, the more likely they are to intend to leave their school system. This variable was among those identified in the first five steps of the step-wise multiple regression procedure for male teachers.

Among female teachers, as seen in Variable 68, teachers are more likely to intend to leave the system where there is little tolerance of teacher individuality. This was among the top five variables for female teachers.

Similarly, for female teachers, the more dissatisfied they were with community feuds (Variable 72) the more likely they were to intend to leave their school system.

Thus, in general, where teachers are accepted in a community, where there are close relationships between the parents and the teachers, and where teachers are allowed scope for individuality, both within the school and outside it, teachers intend to remain teaching in that community.

2. Supervision

Variable 8 indicates that where the superintendent protects female teachers from outside pressures, they wish to continue in his system. Where male teachers are assigned to subjects in which they are trained, few of them intend to leave the system (Variable 10). This variable was among the five most closely related to the dependent variable.

Variable 25 gives us the anomalous finding that where male teachers are satisfied with the professional competence of their department heads, they are more likely to intend to leave. It may be that where ambitious male teachers see no possibility of replacing their department heads, they decide to move on.

Where male teachers perceive that the principal does not show personal interest in them, they are more likely to intend to leave the system (Variable 42).

Variable 44 indicates that where male teachers are dissatisfied with freedom to teach in their own way, they are more likely to want to leave the system.

Variable 49 indicates that when female teachers are dissatisfied with few opportunities for professional growth, they are more likely to want to leave the system.

3. Time In the School System

Variables 30 and 31 indicate that the larger the proportion of female teachers indicating that tenure investment in the system and closeness to retirement age, respectively, contribute to keeping them in their school system, the higher the proportion who intend to stay in the system. (The retirement variable is among the five most closely related to the dependent variable, for the female sample.) This implies that if teachers can be retained for some years, it will not be difficult to retain them after that time.

4. Rural Systems

A number of findings which seem anomalous can in fact be explained by differences between urban and rural systems discussed in Chapter VIII. For example, Variable 11 indicates that the higher the percentage of teachers in a school or district expressing satisfaction with the responsibility for training student teachers, the higher is the proportion of teachers who intend to leave that system. We believe that in fact this relationship is a shadow relationship mediated by some underlying causes. First, as we show in Chapter VIII, retention of teachers is higher in the smaller towns. Second, the proportion of teachers in the smaller towns who are responsible for training student teachers is lower than that proportion in the larger urban centers. Thus, we believe that the relationship shown by Variable 11 is not a causal one but is an artifact of the underlying relationships mentioned.

Variable 32 indicates that where we have a high proportion of male or female teachers who say that their having been born or raised in the region makes them wish to continue teaching in their present system, the percentage intending to leave the system is low. In both cases, these variables were identified in the first five steps of the step-wise regression procedure. Teachers who are emotionally attached to a town, by virtue of having been born or raised there, are less likely to leave it than teachers without that emotional attachment.

For female teachers, according to Variable 80, where county income is high, the proportion intending to leave the system is also high. We believe that this again is mediated by higher income in the larger towns which have higher intended attrition rates than the smaller towns.

Chapter VIII shows that school systems in large towns are more likely than school systems in small towns to have teachers satisfied by traditional approaches in the school. Conversely, the school teachers in large towns are more likely than teachers in small towns to be dissatisfied with the school system moving too fast. The regression analysis results of Variables 36 and 70 are related to this. The more male teachers are satisfied with the traditional approaches in their school, the fewer intend to leave (Variable 36, identified among the top 5). In parallel, the more male teachers say their school system is moving too fast, the more likely they are to intend to leave (Variable 70).

Thus, the more traditional, small-town, low-income communities in Appalachia are likely to hold their teachers better than the larger cities.

5. Economics

Variable 48 indicates that the more male teachers are dissatisfied with fringe benefits, the more of them are likely to intend to leave. Similarly, as indicated by Variable 79, the higher their salary, the fewer male teachers intend to leave.

We found that there is a significant correlation (0.21) between teachers' salaries and the proportion of teachers dissatisfied with the high cost of living in their community. This explains the results of Variable 56. The relationship there is an artifact of the relationship between high salary and low proportion of male teachers who wish to leave.

6. Pupils

The higher the proportion of both male and female teachers who express dissatisfaction with the lack of pupil discipline, the more intend to leave the district (Variable 61). However, the higher the number of male teachers who are dissatisfied with the poor cultural background of their pupils, the lower the proportion who intend to leave (Variable 62). We believe that the relationship shown in Variable 62 may again be an artifact of the relationship between rural communities and poor cultural background of pupils.

7. Facilities

Variable 77 indicates that the higher the number of physical facilities (e.g., classroom size, recreation spaces, etc.) judged inadequate by teachers in a school, the higher the proportion of female teachers intending to leave the system. By contrast, however, we see in Variable 78 that the greater the number of educational facilities (e.g., laboratories, textbooks, etc.) judged inadequate by female teachers, the fewer intend to leave. We cannot explain the discrepancy between the results found for Variable 77 and those found for Variable 78, except insofar as poor educational facilities may be related to rural schools.

8. Summary

In general, we can make the following statements about the retention of teachers in Appalachia:

> The better the home-school relationships are, the higher teacher retention is likely to be.

The quality of supervision by superintendents and principals is related to the teachers' intentions to remain in the system.

Various factors associated with small towns are also associated with high teacher retention intentions.

The better paid teachers are, the more likely they are to intend to remain with their school districts.

Appalachian Teacher Questionnaire

Introduction

In order to cover all of the relevant areas for the study in this one questionnaire, we have had to ask a large number of questions. To make it easier for you to answer, we have grouped the questions in the following categories:

A. Your Educational Background
B. Your Teaching Experience
C. Your Present Teaching Position
D. Background Questions About You

By following the directions closely, you will find that you do not have to answer every question. Answer only those items that apply to you. If the question does not apply, skip to the next one as directed.

Directions

Do not write your name or school on the questionnaire. Your answers will be kept in strict confidence and cannot be identified with you.

This questionnaire is designed for automated scanning of your responses. Questions are answered by marking the appropriate answer spaces as illustrated in this example:

Q. Which is the only marking instrument that will read properly?
ball pen . ○ fountain pen . ○ black lead pencil . ● other . ○

answer

Please use a soft pencil (No. 2 is ideal) and observe carefully these important requirements:

- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Where written response is called for, stay well within the area designated.
- Make no stray markings of any kind.

Those questions which ask for a specific year are marked in this manner:

1
9

(Write one digit in box)

5	⓪①②③④●⑥⑦⑧⑨
9	⓪①②③④⑤⑥⑦⑧●

(Blacken corresponding circles)

It will take 25 to 30 minutes to complete this questionnaire.

Because analysis must be completed soon, we urge you to complete and return the questionnaire within the next two weeks. When you have completed the questionnaire, tear off the first page, seal the questionnaire in the attached envelope, mail it directly and then return the voucher form on the first page to your principal. To avoid biased responses, please do not discuss the items with anyone in school until all questionnaires have been returned.

Section A

YOUR EDUCATIONAL BACKGROUND

1. Did you complete three or more years of high school in the state in which you are now teaching? Mark one.

○ Yes ○ No

2. What is the highest level of education you have attained? Mark one.

- Ⓐ High school or its equivalent
- Ⓑ One year of college
- Ⓒ Two years of college
- Ⓓ Three years of college
- Ⓔ Four or more years of college, but no bachelor's degree

(If you have marked A-E, please skip to Question 9.)

- Ⓕ Bachelor's degree
- Ⓖ Master's degree
- Ⓗ Master's degree plus 30 semester hours (45 quarter hrs.)
- Ⓘ Earned Doctor's degree

(If you have marked F-I, go on to Question 3.)

About your bachelor's degree . . .

(If you do not have a bachelor's degree, mark here ○ and go to Question 9.)

3. When did you receive it? Write a digit in each box and blacken the corresponding circles.

1
9

	⓪①②③④⑤⑥⑦⑧⑨
	⓪①②③④⑤⑥⑦⑧⑨

4. What did the institution from which you received the degree call itself then? Mark one.

- ○ Private college/university
- ○ State college/university/normal school
- ○ Other (specify) ☐

5. In which state is that college/university/normal school? Mark one.

- ○ Alabama
- ○ Georgia
- ○ Kentucky
- ○ Maryland
- ○ Mississippi
- ○ New York
- ○ N. Carolina
- ○ Ohio
- ○ Pennsylvania
- ○ S. Carolina
- ○ Tennessee
- ○ Virginia
- ○ W. Virginia
- ○ In another state or country

About your master's degree . . .

(If you do not have a master's, mark here ○ and go to Question 9.)

6. When did you receive it? Write a digit in each box and blacken the corresponding circles.

1
9

	⓪①②③④⑤⑥⑦⑧⑨
	⓪①②③④⑤⑥⑦⑧⑨

7. What did the institution from which you received your degree call itself then? Mark one.

- ○ Private college/university
- ○ State college/university/normal school
- ○ Other (specify) ☐

8. In which state is that college/university/normal school? Mark one.

- ○ Alabama
- ○ Georgia
- ○ Kentucky
- ○ Maryland
- ○ Mississippi
- ○ New York
- ○ N. Carolina
- ○ Ohio
- ○ Pennsylvania
- ○ S. Carolina
- ○ Tennessee
- ○ Virginia
- ○ W. Virginia
- ○ In another state or country

9. How well do your courses and internship training in college in the following areas meet the needs of your teaching assignment? (Mark one letter for each row below.)

Ⓐ No course or training in this area
Ⓑ Irrelevant to present teaching
Ⓒ Inadequate
Ⓓ Sufficient
Ⓔ More than I need
Ⓕ No opinion; can't say

ⒶⒷⒸⒹⒺⒻ	Application of educational theory
ⒶⒷⒸⒹⒺⒻ	Teaching methods
ⒶⒷⒸⒹⒺⒻ	Teaching methods for disadvantaged students
ⒶⒷⒸⒹⒺⒻ	Education in subjects I teach
ⒶⒷⒸⒹⒺⒻ	Education about vocational opportunities for my pupils
ⒶⒷⒸⒹⒺⒻ	Curriculum planning and development
ⒶⒷⒸⒹⒺⒻ	Student teaching/internship

10. Please indicate the subject(s) closest to each of the following: Mark as many as apply in each column. Do one column at a time.

Your college majors or areas of concentration
College minors or subjects in which you have 15 or more semester hours
Subjects in which you have graduate credits
Subjects in which you have a Master's and/or Doctor's degree

ⒶⒷⒸⒹ

ⒶⒷⒸⒹ Accounting
ⒶⒷⒸⒹ Agriculture
ⒶⒷⒸⒹ American Studies
ⒶⒷⒸⒹ Anthropology
ⒶⒷⒸⒹ Art
ⒶⒷⒸⒹ Biology/Bio Sci
ⒶⒷⒸⒹ Business Ed/Admin
ⒶⒷⒸⒹ Chemistry
ⒶⒷⒸⒹ Counseling
ⒶⒷⒸⒹ Distributive Ed
ⒶⒷⒸⒹ Driver Ed
ⒶⒷⒸⒹ Early Childhood Ed
ⒶⒷⒸⒹ Economics
ⒶⒷⒸⒹ Education Admin
ⒶⒷⒸⒹ Education (Gen)
ⒶⒷⒸⒹ Elementary Ed (primary/grammar)
ⒶⒷⒸⒹ Engineering
ⒶⒷⒸⒹ English
ⒶⒷⒸⒹ Foreign Language
ⒶⒷⒸⒹ Forestry
ⒶⒷⒸⒹ Geography
ⒶⒷⒸⒹ Health
ⒶⒷⒸⒹ History
ⒶⒷⒸⒹ Home Economics
ⒶⒷⒸⒹ Industrial Arts
ⒶⒷⒸⒹ Journalism
ⒶⒷⒸⒹ Language Arts
ⒶⒷⒸⒹ Library Science
ⒶⒷⒸⒹ Mathematics
ⒶⒷⒸⒹ Music
ⒶⒷⒸⒹ Philosophy
ⒶⒷⒸⒹ Physical Ed
ⒶⒷⒸⒹ Physical Science
ⒶⒷⒸⒹ Physics
ⒶⒷⒸⒹ Pol. Sci/Int. Relat
ⒶⒷⒸⒹ Psychology
ⒶⒷⒸⒹ Religion

10. Continued

ⒶⒷⒸⒹ Science (gen.)
ⒶⒷⒸⒹ Secondary Ed
ⒶⒷⒸⒹ Soc. Sci (gen.)
ⒶⒷⒸⒹ Sociology
ⒶⒷⒸⒹ Special Ed
ⒶⒷⒸⒹ Speech-Drama
ⒶⒷⒸⒹ Trade & Ind. Ed
ⒶⒷⒸⒹ Other (Specify)

A	C
B	D

11. When did you last take a course for credit from a college or university? (Exclude non-college credit in-service training you may have had under the auspices of a school system.) Mark one.

○ Within this school year
○ Last summer
○ 1-2 years ago
○ 3-5 years ago
○ 6-10 years ago
○ More than 10 years ago
○ Never

12. Have you ever attended college - conducted courses or institutes paid for by federal funds (e.g. National Science Foundation; National Defense Education Act; Educational Professions Development Act?) Mark one.

○ Yes ○ No

13. Are college or graduate school courses on education methods and subject matter available to you within 25 miles of your home or school? Mark one.

○ Yes **Go on to Question 14**
○ No } **Skip to top of Page 5**
○ I don't know } **Skip to top of Page 5**

14. Are most of these courses available at times which are convenient to you? Mark one.

○ Yes
○ No
○ I don't know

15. Are some of these courses relevant to your current teaching assignment? Mark one.

○ Yes
○ No
○ I don't know

In-service training as it is used in questions 16-19 means "non-college credit training given under the auspices of a school system." School system, as it is used throughout this questionnaire, means "a school or group of schools operating within a unit or district under the legal jurisdiction of a single board of education and under the direction of a chief school officer or superintendent."

16. When did you last take in-service training? Mark one.
- ○ Within this school year
- ○ Last summer
- ○ 1-2 years ago
- ○ 3-5 years ago
- ○ 6-10 years ago
- ○ More than 10 years ago
- ○ Never

17. Is in-service training for your level of teaching presently offered in your school system? Mark one.
- ○ Yes
- ○ No

18. How well does in-service training in the following areas you have received in the state in which you are now teaching meet the needs of your teaching assignment? If you have never taken any in-service training in that state, mark here ○ and skip to Question 20. Otherwise, mark one letter for each row below.

Ⓐ No in-service training in this area
Ⓑ Irrelevant to present teaching
Ⓒ Inadequate
Ⓓ Sufficient
Ⓔ More than I need
Ⓕ No opinion; can't say

ⒶⒷⒸⒹⒺⒻ Application of educational theory
ⒶⒷⒸⒹⒺⒻ Teaching methods
ⒶⒷⒸⒹⒺⒻ Teaching methods for disadvantaged students
ⒶⒷⒸⒹⒺⒻ Training in subjects I teach
ⒶⒷⒸⒹⒺⒻ Training about vocational opportunities for my pupils
ⒶⒷⒸⒹⒺⒻ Curriculum planning and development

19. Mark the following ways in which you think in-service training (IST) should be improved. You may mark more than one if you wish.
- ○ IST has been presented in an excellent way. I don't see how it can be improved. Go on to Question 20.
- ○ I have had so little experience with in-service programs that I can't really say how they could be improved. Go on to Question 20.
- ○ In-service training should be scheduled during the school day.
- ○ IST is valuable but more follow-up should be provided at my school.
- ○ The content of IST should be discussed with the teacher trainees before it is presented.
- ○ People who teach IST programs should be better prepared.
- ○ IST instructors should not be limited to local school system personnel.
- ○ There should be flexibility in the length of IST programs.
- ○ My school system should appropriate more money for IST
- ○ My system should offer programs relevant to my level and/or subject area of teaching.
- ○ No IST is available this year — some should be offered.
- ○ None of the above.

20. What kind of certification do you have for the state in which you teach? Mark one.
- ○ I have received full professional (regular minimum) certification.
- ○ I have less than complete (emergency, temporary or interim permit, excuse in default of certificate, special license) certification.
- ○ I have no certification

Section B
YOUR TEACHING EXPERIENCE

21. Which of the following describes your primary responsibility in your present assignment? (Consider primary responsibility to be that which takes up more than 50% of your time.) If no one of your responsibilities takes up more than 50% of your time, mark answer J. Mark one only.
- Ⓐ Student teacher or intern
- Ⓑ Classroom teacher
- Ⓒ Principal or superintendent
- Ⓓ Supervisor or coordinator
- Ⓔ Librarian
- Ⓕ Guidance director or counselor
- Ⓖ School nurse
- Ⓗ School psychologist
- Ⓘ Other (specify) → ☐
- Ⓙ No one of my responsibilities takes up more than 50% of my time.

22. From the time of your first teaching job to the present, have you been a classroom teacher continuously, or have you taken time out (other than summers) to follow some other personal or professional activity? Mark one.

○ I have been a classroom teacher continuously. **Skip to Question 24.**
○ I have taken time out. **Please answer Question 23.**

23. What was the nature of your activity? Mark as many as apply.

○ College or graduate school
○ Homemaking
○ Armed forces
○ School counseling, administration or supervision
○ Illness (self or family)
○ Other occupation
○ None of the above

In answering questions 24-28 consider only your elementary or secondary public school classroom teaching career. Do not include student teaching, counseling, administrative, librarian, or supervisory school positions as teaching. Include 1969-1970 as a year of teaching.

24. How many years have you taught in public schools? Write a digit in each box and blacken the corresponding circles. If the number is less than 10, write and mark the first (top) digit 0. For example, seven years is written

	⓪①②③④⑤⑥⑦⑧⑨	0
	⓪①②③④⑤⑥⑦⑧⑨	7

25. How many years have you taught in public schools in the state in which you are teaching? Write a digit in each box and blacken the corresponding circles. If the number is less than 10, write and mark the first (top) digit 0.

	⓪①②③④⑤⑥⑦⑧⑨
	⓪①②③④⑤⑥⑦⑧⑨

26. How many years have you taught in the school system in which you are teaching? Write a digit in each box and blacken the corresponding circles. If the number is less than 10, write and mark the first (top) digit 0.

	⓪①②③④⑤⑥⑦⑧⑨
	⓪①②③④⑤⑥⑦⑧⑨

27. In how many states have you had public school classroom teaching experience? Mark one.

○1 ○4 ○7
○2 ○5 ○8
○3 ○6 ○9 or more

28. In how many public school systems in this state have you taught? Mark one.

○1 ○4 ○7
○2 ○5 ○8
○3 ○6 ○9 or more

29. Which reasons definitely influenced you to choose the first public school system in which you taught? Mark as many reasons as apply to you.

○ My only application was with this system
○ My only offer was with this system
○ Availability of higher education facilities nearby
○ Chance to teach disadvantaged children
○ Located in a college or university town
○ Community cultural advantages
○ College Placement officer
○ Community close to where my husband/wife had a job or went to school
○ Near my parents or relatives
○ Pleasant place to live
○ Low cost of living
○ Freedom to teach the way I think I should
○ Guaranteed assignment to school, grade or subject matter of choice
○ High socio-economic level of community
○ Near my college
○ A school or community different from my previous experience
○ Personality of recruiter from the school district
○ Personnel practices
○ Quality of superintendent, principal, or administrative staff
○ Salary
○ Tenure and retirement provisions
○ None of the above

30. Which reasons influenced you to choose the school system in which you now teach? (If this is the same system as your first system, mark here ○ and skip to Question 32. Mark as many reasons as apply to you.

○ My only application was with this system
○ My only offer was with this system
○ Availability of higher education facilities nearby
○ Chance to teach disadvantaged children
○ Located in a college or university town
○ Community cultural advantages
○ College Placement officer

Continued on next page

30. Continued

- ○ Community close to where my husband/wife had a job or went to school
- ○ Near my parents or relatives
- ○ Pleasant place to live
- ○ Low cost of living
- ○ Freedom to teach the way I think I should
- ○ Guaranteed assignment to school, grade, or subject matter of choice
- ○ High socio-economic level of community
- ○ Near my college
- ○ A school or community different from my previous experience
- ○ Personality of recruiter from the school district
- ○ Personnel practices
- ○ Quality of superintendent, principal, or administrative staff
- ○ Salary
- ○ Tenure and retirement provisions
- ○ None of the above

31. If you have changed school systems during the course of your teaching career, which reasons definitely led you to leave the system in which you taught prior to coming to your present position? (If you have not changed school systems, mark here —— ○ and go to Question 32.) Mark as many reasons as apply to you.

- ○ Personal reasons unconnected with the school system or community (e.g. military service, illness, spouse transferred jobs, had to move, etc.)
- ○ Community political climate
- ○ Community too dull
- ○ Contract was terminated/asked to resign
- ○ Housing problems
- ○ Lack of social opportunities
- ○ No opportunities for originality
- ○ Personnel practices
- ○ Problems presented by parents
- ○ Problems presented by principal
- ○ Problems presented by pupils
- ○ Problems presented by superintendent
- ○ Salary too low
- ○ Transportation problem
- ○ Invasions of personal privacy by district or community
- ○ Differences in my religious views and those of most of the community
- ○ I was not an "insider"
- ○ Not much freedom to teach the way I wanted to
- ○ Little opportunity for professional development
- ○ Too far from college or university

Continued on next page

31. Continued

- ○ Preferred more urban environment
- ○ Preferred more rural environment
- ○ Classes too large
- ○ Other teachers too provincial
- ○ Lack of teaching aids, materials and equipment
- ○ High cost of living
- ○ None of the above

Section C

YOUR PRESENT TEACHING POSITION

32. What grade (grades) do you teach? Mark as many as apply to you.

- ○ pre–K
- ○ K
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10
- ○ 11
- ○ 12
- ○ ungraded elementary
- ○ ungraded secondary

33. What subject(s) do you teach? (If you are an elementary teacher, in a self-contained classroom, mark only answer 15. Otherwise, mark as many subjects as apply to you.)

- ○ Accounting
- ○ Agriculture
- ○ American Studies
- ○ Anthropology
- ○ Art
- ○ Biology/Bio Sci
- ○ Business Ed
- ○ Chemistry
- ○ Counseling
- ○ Distributive Ed
- ○ Driver Ed
- ○ Early Childhood Ed
- ○ Economics
- ○ Education (gen.)
- ⑮ Elementary Ed (primary/grammar) ← Answer No. 15
- ○ English
- ○ Foreign Language
- ○ Forestry
- ○ Geography
- ○ Health
- ○ History
- ○ Home Economics
- ○ Industrial Arts
- ○ Journalism
- ○ Language Arts
- ○ Library Science
- ○ Mathematics
- ○ Music
- ○ Philosophy
- ○ Physical Ed
- ○ Physical Science
- ○ Physics
- ○ Pol Sci/Int Relations
- ○ Psychology
- ○ Reading
- ○ Religion
- ○ Science (gen.)
- ○ Soc. Science (gen)
- ○ Soc. Studies
- ○ Sociology
- ○ Special Education
- ○ Speech-Drama
- ○ Trade & Ind'l Ed.
- ○ Other (specify) →

34. What is the average size of the classes you teach? Mark one.

- ○ Fewer than 20 pupils
- ○ 20 - 25 pupils
- ○ 26 - 30 pupils
- ○ 31 - 35 pupils
- ○ 36 - 40 pupils
- ○ More than 40 pupils

(If you teach in a self-contained classroom, mark here ○ and skip to Question 39. Otherwise, please go to Question 35.)

35. How many hours per week do you spend in school in classroom teaching (excluding study halls)? Mark one.

○ 0 - 4
○ 5 - 8
○ 9 - 12
○ 13 - 16
○ 17 - 20
○ 21 - 24
○ 25 - 28
○ 29 - 32
○ 33 - 36
○ 37 or more

36. How many hours per week do you spend in school in preparation for classroom teaching? Mark one.

○ 0 - 2
○ 3 or 4
○ 5 or 6
○ 7 or 8
○ 9 or 10
○ 11 or 12
○ 13 or 14
○ 15 or 16
○ 17 or 18
○ 19 or more

37. How many hours per week do you spend in carrying out assigned duties other than classroom teaching (e.g., cafeteria, study hall, counseling, library, administrative or supervisory duties)? Mark one.

○ 0 - 2
○ 3 or 4
○ 5 or 6
○ 7 or 8
○ 9 or 10
○ 11 or 12
○ 13 or 14
○ 15 or 16
○ 17 or 18
○ 19 or more

38. How many different subjects (e.g. 7th History, 8th History) do you teach? Mark one.

○ None
○ 1
○ 2
○ 3
○ 4
○ 5
○ 6
○ 7 or more

39. Please estimate the age of the oldest part of the building in which you teach. Mark one.

○ Less than 5 years
○ 5 - 9 years
○ 10 - 19 years
○ 20 - 29 years
○ 30 - 50 years
○ over 50 years

40. Please estimate the age of the newest part of the building in which you teach. Mark one.

○ Less than 5 years
○ 5 - 9 years
○ 10 - 19 years
○ 20 - 29 years
○ 30 - 50 years
○ Over 50 years

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41. In your judgment, are the following physical facilities in your building adequate or inadequate for pupil and teacher comfort and education needs? Mark one answer for each row across.

Ⓐ Adequate
Ⓑ Have, but inadequate
Ⓒ Need, do not have
Ⓓ Don't know
Ⓔ — Does not apply

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Classroom size
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Recreation spaces and facilities
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Auditorium
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Library (physical setting only)
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Lunchroom
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Water supply
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Toilet facilities
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Heating
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Cooling
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Lighting
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ventilation
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Noise control
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Health facilities
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Electrical outlets

42. In your judgment are the following instructional facilities and materials in your school adequate or inadequate for the educational needs of pupils and teachers? Mark one answer for each row across.

Ⓐ Adequate
Ⓑ Have, but inadequate
Ⓒ Need, do not have
Ⓓ Don't know
Ⓔ — Does not apply

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Science Lab
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Science equipment
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Language Lab
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Audio-visual mat'l (maps, charts, films, etc.)
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Audio-visual equipment (proj., tape recorders, etc.)
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Library materials (books, periodicals, etc.)
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Textbooks
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Supplies (paper, pencils, etc.)

43. Do you work directly with student teachers, teaching interns, or Teacher Corps interns in the school in which you now teach? Mark one.

○ Yes
○ No

GO ON ➡

44. Are there teacher aides in your school?
○ Yes ○ No (Skip to Question 47.)

45. What is the ratio of teacher aides to teachers in your school? Mark one.
- ○ One aide for one teacher
- ○ One aide for two teachers
- ○ One aide for three teachers
- ○ One aide for four teachers
- ○ One aide for five or more teachers

46. If your school has teacher aides, mark which duty(ies) aides perform. Mark as many as apply.
- ○ Administrative duties
- ○ Clerical in the classroom
- ○ Clerical outside the classroom
- ○ Substitute for absent teachers
- ○ Run errands
- ○ Help pupils individually in instructional matters
- ○ Other (specify) ☐

47. What do you consider to be the ideal ratio of teacher aides to teachers in school? Mark one.
- ○ No aides
- ○ One aide for one teacher
- ○ One aide for two teachers
- ○ One aide for three teachers
- ○ One aide for four teachers
- ○ One aide for five or more teachers

48. Please mark those aspects of your school system and community that definitely contribute to your satisfaction in teaching there and make you wish to stay there. Because this study is trying to examine all important aspects of teaching, the list is long. Please give all aspects your careful consideration. Mark as many as apply to you.
- ○ Respect from other teachers
- ○ Respect from the community
- ○ Respect from school administrators
- ○ Teacher prestige among pupils
- ○ Personal interest in me by department heads or curriculum coordinators
- ○ Personal interest in me by principal
- ○ Superintendent protection of teachers from outside pressures
- ○ Freedom to teach in my own way
- ○ Teaching subjects in which I am trained
- ○ Responsibility for training student teachers/interns
- ○ Exciting school
- ○ Fringe benefits
- ○ Opportunities for professional growth
- ○ Opportunities for positions in administration and counseling

Continued on next column

48. Continued
- ○ Ease of getting things done
- ○ Small community
- ○ Traditional community
- ○ Parents cooperate with school
- ○ Wealthy community
- ○ Low cost of living here
- ○ Large community
- ○ Quality of fellow teachers
- ○ Fairness of administrators
- ○ Professional competence of department heads or curriculum coordinators
- ○ Pupil discipline and order
- ○ Pupils' cultural background
- ○ Pupils' intellectual quality
- ○ Exciting community
- ○ Tenure investment in the system
- ○ Closeness to retirement age
- ○ I was born and/or raised in this region
- ○ I understand the way people think here
- ○ Close relationship between school and home
- ○ Community and school acceptance of teacher individuality
- ○ Traditional approaches in school
- ○ None of the above makes me wish to continue teaching here

49. Please mark those aspects of your school system and community that definitely contribute to your dissatisfaction in teaching there and make you wish to leave. Mark as many as apply to you.
- ○ Lack of professional respect among teachers
- ○ Lack of community respect for teachers
- ○ Lack of respect from school administrators
- ○ Low prestige of teachers among pupils
- ○ Lack of personal interest in me by department heads or curriculum coordinators
- ○ Lack of personal interest in me by principal
- ○ Teachers are not protected from outside pressures by the superintendent
- ○ No freedom to teach in my own way
- ○ Teaching subjects in which I am not trained
- ○ No responsibility for training student teachers/interns
- ○ Dull school
- ○ Poor fringe benefits
- ○ Few opportunities for professional growth and development
- ○ Few opportunities for positions in administration and counseling
- ○ Too much 'red tape' involved in getting things done

Continued on next column

49 Continued

- ○ Community too large
- ○ Community too progressive
- ○ Parents generally uncooperative with the school
- ○ Poverty of the community
- ○ High cost of living here
- ○ Community too small
- ○ Poor quality of fellow teachers
- ○ Administrators unfair
- ○ Professional incompetence of department heads or curriculum coordinators
- ○ Lack of pupil discipline
- ○ Poor cultural background of pupils
- ○ Poor intellectual quality of pupils
- ○ Dull, unexciting community
- ○ I was not born and /or raised in this region
- ○ I don't understand the way people think here
- ○ No close relationships between school and home
- ○ Very little tolerance and acceptance of teacher individuality in the school and community
- ○ Traditional approaches in school - little hope for change
- ○ School system moving too fast
- ○ Long hours
- ○ Community feuds into which teachers are drawn
- ○ None of the above makes me wish to leave

50. Which one of the following items listed below best describes what you plan to be doing 2 to 3 years from now? Mark one.

- Ⓐ Teach in the same school
- Ⓑ Teach in a different school, same system

(Skip to Question 53, if you marked A or B.)

- Ⓒ Teach in another public school system
- Ⓓ Teach in a junior or four year college
- Ⓔ Become a school administrator/supervisor/counselor
- Ⓕ Become a full-time homemaker
- Ⓖ Go into an occupation other than teaching
- Ⓗ Return to school
- Ⓘ Undecided
- Ⓙ None of the above

(Go to Question 51.)

51. Which two of the following would do the most to keep you in your present system and which two would make the least difference to you? Mark two in each column or mark the last answer. Answer for the "M" column first.

— Most
ⓂⓁ — Least

- ⓂⓁ District pays all fringe benefits
- ⓂⓁ More help from teacher aides
- ⓂⓁ More chance for professional development
- ⓂⓁ One more period during the day for preparation
- ⓂⓁ 10% higher salary
- ⓂⓁ 10% smaller classes
- ⓂⓁ Building improvement
- ⓂⓁ More professional support (guidance counselors, psychologists, etc.)
- ⓂⓁ None of these makes any difference

52. Do you know anyone well who was teaching in your state who has left public classroom teaching recently? Mark one.

- ○ Yes **(Go to Question 53.)**
- ○ **(Skip to Section D, Page 11.)**

(If "yes", and you know several well, pick the one person you know best, and answer Questions 53 - 56 with reference to that one person only.)

53. Please indicate the status or position to which this person went. Mark one.

- ○ I don't know
- ○ Into the Armed Forces
- ○ To retire
- ○ To become a full-time homemaker
- ○ A non-classroom teaching position in a school system
- ○ A position in a special federal education program, (e.g., compensatory education)
- ○ None of the above

54. This person is . . . Mark one.

- ○ Male
- ○ Female

55. How old was this person when he (she) left? Mark one.

○ 20 - 25 years old	○ 31 - 40 years old
○ 26 - 30 years old	○ Over 40 years old

56. Please mark the reasons that you know influenced this person to leave his (her) teaching position. Mark more than one if applicable.

- ○ Personal reasons unconnected with the school system or community (e.g., military service, illness, spouse transferred jobs, had to move, etc.)
- ○ Community political climate

Continued on next page

56. Continued

○ Community too dull
○ Contract was terminated/asked to resign
○ Housing problems
○ Lack of social opportunities
○ No opportunities for originality
○ Personnel practices
○ Problems presented by parents
○ Problems presented by principal
○ Problems presented by pupils
○ Problems presented by superintendent
○ Salary too low
○ Transportation problems
○ Invasions of personal privacy by district or community
○ Differences in religious views between the teacher and most of the community
○ He/she was not an "insider"
○ Not much freedom to teach the way he/she wanted to
○ Little opportunity for professional development
○ Too far from college or university
○ Preferred more rural environment
○ Preferred more urban environment
○ Classes too large
○ Other teachers too provincial
○ Lack of teaching aids, materials and equipment
○ High cost of living
○ None of above

Section D
BACKGROUND QUESTIONS ABOUT YOU

Again remember that this is an anonymous questionnaire. The following information is necessary to compare the answers of different kinds of teachers and relate them to other answers on this questionnaire.

57. In what year were you born?
○ Before 1900
Write a digit in each box and blacken the corresponding circles.

1
9

	⓪①②③④⑤⑥⑦⑧⑨
	⓪①②③④⑤⑥⑦⑧⑨

58. In what state were you born? Mark one.
○ Alabama
○ Georgia
○ Kentucky
○ Maryland
○ Mississippi
○ New York
○ N. Carolina
○ Ohio
○ Pennsylvania
○ S. Carolina
○ Tennessee
○ Virginia
○ W. Virginia
○ Another state not listed above
○ Outside the United States

59. What is your marital status? Mark one.
○ Single **Skip to Question 61.**
○ Married
○ Widowed
○ Divorced/separated
} **Go to Question 60.**

60. If you have children, how old is the youngest? (If no children check here ○). Mark one.
○ Under 3 years
○ 3 - 5 years old
○ 6 or 7 years old
○ 8 or older

61. Are you male or female? Mark one.
○ Male
○ Female

62. What did you do in the summer of 1969? Mark as many as apply to you.
○ Taught summer school
○ Took courses or training
○ Rested and/or traveled
○ Planned curricula, for pay
○ Planned curricula, without pay
○ Visitation programs
○ Participated in workshops
○ Worked at a job other than classroom teaching
○ Carried out homemaking responsibilities
○ None of the above

63. What was your total salary for teaching and other assigned duties during the school day during the period September 1968 through August 1969? (Exclude salary earned for teaching summer school in 1969). Mark one.
○ I was not a classroom teacher between September 1968 and August 1969.
○ Less than $3,000
○ $3,001-3,499
○ $3,500-3,999
○ $4,000-4,499
○ $4,500-4,999
○ $5,000-5,999
○ $6,000-6,999
○ $7,000-7,999
○ $8,000-8,999
○ $9,000-9,999
○ $10,000-11,999
○ $12,000 or more

64. Did the income you indicated in Question 63 comprise most of your family income (or individual income if you were not married) during the same period (September 1968 through August 1969)? Mark one.
○ Yes ○ No

65. Did you have any paid employment during the period September 1968 through August 1969 other than teaching and/or assigned duties during the school day? Mark one.
○ Yes ○ No

66. Did your spouse have any paid employment during the period September 1968 through August 1969? (If you had no spouse at that time mark here ○ and go on to Question 67.) Mark one.

○ Yes
○ No

67. Using your usual means of transportation, about how long does it take you to get from your home to the nearest city or town with a population of 50,000 or more? Mark one.

○ I live in a city or town with a population of 50,000 or more
○ Less than 15 minutes
○ 15 - 29 minutes
○ 30 minutes to an hour
○ Between one and two hours
○ More than two hours
○ I don't know

68. Using your usual means of transportation, how long does it take you to get from your home to your school? Mark one.

○ Less than 15 minutes
○ 15 - 29 minutes
○ 30 minutes to an hour
○ Between one and two hours
○ More than two hours
○ I don't know

69. About how many people live in the city or town in which you teach? (If your school is not located within the limits of a city or town, answer for the nearest city or town.) Mark one.

○ Fewer than 500
○ 500 - 2,499
○ 2,500 - 4,999
○ 5,000 - 9,999
○ 10,000 - 24,999
○ 25,000 - 49,999
○ 50,000 - 99,999
○ 100,000 or more

The processing and analysis of the survey results must be completed soon. Therefore, we ask again that you mail in the questionnaire within two weeks of its receipt in the attached franked envelope to National Computer Systems, 4401 West 76th Street, Minneapolis, Minnesota 55435, so that your experiences and opinions can be included. Don't forget to hand in the voucher to your principal or the person he has designated.

Thank you for your cooperation and help!

FOR NCS USE ONLY

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VIII. DIFFERENCES BETWEEN URBAN AND RURAL APPALACHIA

A. INTRODUCTION

One of the hypotheses of this study is that there are real differences between the urban and the rural regions within Appalachia. In order to test this hypothesis, we split the teachers in the sample into three groups:

> those who teach in a town with fewer than 5,000 inhabitants ("smallest towns"),
>
> those who teach in a town of 5,000 to 24,999 inhabitants (medium-sized towns), and
>
> those who teach in a town or city with a population of 25,000 or more (largest towns).

We compared the responses of these groups of teachers for each question in the questionnaire. Discussed below are those areas where major differences were found among the groups. Differences were considered major when there was ten points or more between the percentages indicating a given answer to a question.

B. BACKGROUND AND CHARACTERISTICS

Teachers in the smallest towns are more likely to be "local people" than teachers in the largest towns. Eighty-seven percent of the teachers in the smallest towns but only 76% of the teachers in the largest ones completed most of their high school in the state in which they are now teaching.

As we could expect, the proportion of teachers living in a city with more than 50,000 inhabitants rises from 3% of those teaching in the smallest towns to 46% teaching in the largest ones.

C. QUALITY AND RELEVANCE OF PREPARATION

It is not surprising to find that the availability of college and graduate school courses on education methods and subject matter increases as one goes from small to medium to large towns. The proportion of teachers who indicated that such courses are available rises from 74% to 85% to 95%, respectively, for the three kinds of locations.

The percentage of teachers in schools which offer in-service training within their own systems rises from 43% to 50% to 59% as we go from the small to the medium to the large towns.

The proportion of teachers who have worked with student teachers, teaching interns, or Teacher Corps Interns increases from 17% to 27% to 31% as we go from small to medium to large towns.

It is worth noting that we found no major differences among teachers in towns of various sizes on many important variables, such as the following:

highest degree earned

incomplete certification

sufficiency of college training

time since the last college credit course

time since the last in-service training

whether in-service training meets needs

D. EXPERIENCE AS A TEACHER IN APPALACHIA

Forty percent of the teachers in small towns and 50% of the teachers in large ones have taught in public schools for ten years or less. Similarly, 40% of the teachers in small towns and 51% of teachers in large towns have taught in public schools in their present state for ten or fewer years. Thus, teachers in schools in large towns tend to be younger than those in small towns. We believe this indicates higher teacher turnover and therefore the need for hiring more relatively inexperienced teachers in the large towns. Higher turnover seems to be connected with the higher proportion of female teachers, who have higher turnover because of marriage and pregnancy than male teachers, in the larger towns; 76% of the teachers in the larger towns, and only 69% of the teachers in the smaller towns are women.

Following the trend above is the fact that 44% of the teachers in small towns have taught ten or fewer years in their present school system; 54% of the teachers in large towns have taught for ten or fewer years in their present system.

Forty-three percent of the teachers in small towns, compared to 57% of the teachers in large towns, indicated that their library is adequate.

Fifty-six percent of the teachers in small towns, 41% of those in the medium-size towns and 39% of those in large towns indicated that there are teacher aides in their schools.

The median salary for teachers in the small towns is about $6,300 a year; for those in the medium-size and large towns it is about $6,800 a year.

E. FACTORS IN RETENTION

Another piece of data which corroborates the existence of lower teacher turnover in the small towns is that 60% of teachers there intend to teach in the same district two or three years from now, compared to 55% in the large locations. Similarly, 43% of the teachers in small towns but 48% of those in large ones know someone well who has recently left teaching. Although we have seen that salaries are higher in systems in larger towns, the percents of those acquaintances leaving teaching, who left because of low salary, were almost exactly the same in the three kinds of teaching locations: 13.4%, 13.5%, and 13.7%.

F. SUMMARY OF THIS CHAPTER

Thus, we found that in many respects, teachers in Appalachia in towns and cities of different sizes are similar. We found some characteristics where there were large differences among teachers in towns of fewer than 5,000, 5,000-24,999, and 25,000 or more inhabitants, respectively. Teachers in small towns are more likely than teachers in large towns to be:

Local people

Far from colleges or graduate schools which teach courses on education methods and subject matter

In schools which do not offer in-service training

In schools where they do not work with student teachers, teaching interns, or Teacher Corps Interns

Teaching for more than ten years

Male

Teaching in schools with inadequate libraries

Teaching in a school where there are teacher aides

Teaching at a lower salary

Intending to teach in the same district two or three years from now.

IX. RECOMMENDATIONS

The recommendations in this chapter are based on our survey's findings and conclusions about Appalachian teachers. In this chapter we have documented the main problems of Appalachian teachers for the Appalachian Regional Commission and the Appalachian States and suggested a range of possible solutions to be examined. The Commission and the States generally have greater familiarity than does the study team with the resources actually and potentially available for problem solution, the feasibility constraints of institutions, timing, and programs, and the overall context of Appalachian education. We have made recommendations for specific solutions only when our survey data directly indicate them. We see three areas in which action needs to be taken:

The preparation of Appalachian teachers

Retention of young, well-educated teachers

Help in teaching (paraprofessional staff and technological devices).

We believe that the priority of these items is as listed. Below we shall discuss some steps the various parties at interest can take to improve the areas under discussion.

A. PREPARATION OF APPALACHIAN TEACHERS

By preparation we mean any kind of training--both pre-service and in-service--which will help Appalachian teachers to improve their competence.

1. The Need for Kindergarten and Pre-Kindergarten Teachers

Much recent educational research has pointed out the beneficial effects of educational experience before the first grade on the child's learning ability and performance in the first grade and later. The effects of formal kindergarten and pre-kindergarten education have been found especially strong for the disadvantaged and those who suffer from a culturally deprived home environment. Forty-three percent of the children under six years of age in Appalachia are economically disadvantaged (defined in terms of the Office of Economic Opportunity criterion as belonging to a nonfarm family of four with an income of less than $3,600 a year).* Our discussion below is based on the belief that all children, not just the disadvantaged, will benefit materially by attending kindergarten and pre-kindergarten classes.

How many children in Appalachia who are four or five years old (eligible for pre-kindergarten and kindergarten) do not now attend classes? How many more teachers would need to be recruited to staff such classes? Table 16 below shows how we derived our estimate that 21,000 more teachers are needed. Filling this demand would entail an increase of about 11% of the 180,000 teachers in Appalachia in September, 1969, a very considerable expansion. The increase is more than the 8% of Appalachian teachers who began teaching in September, 1969, as replacements for teachers who left, to handle increases in the number of students (and possibly to decrease pupil-teacher ratios) in grades 1-12. To meet the need, therefore, it seems likely that the Appalachian states will wish to consider the widespread recruiting and qualifying of teacher aides (with high school diplomas and junior college degrees) as well as bringing back to teaching certified teachers with bachelor's degrees. Part of the effort to meet the need can therefore come from community and junior colleges increasing their emphasis on early childhood education paraprofessional preparation programs. Part can be met by teacher preparatory institutions (TPI's) expanding enrollments in their programs of professional preparation in kindergarten and early childhood education.

Another option is to make facilities available, especially in night school and extension courses in early childhood and kindergarten education, for retraining those who have temporarily left teaching. Two sources of data about names and addresses exist: schools where they have taught and which they have left, and State Certification Agencies which have certified them in the past. A concerted effort to find them and notify them of the opportunities in early childhood education could be a combined effort of local education agencies and the state educational agencies. It will be up to the four-year and junior colleges to provide training which will help these persons reenter the teaching occupation in a way that will be satisfying to them and useful to Appalachian education and Appalachian children.

Another option is to encourage women to come back into teaching, especially in the early childhood education area, by

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* Lazar, I., "Organizing Child Development Programs, " Appalachia, A Journal of The Appalachian Regional Commission, Vol. 3, No. 4, January, 1970, pp. 1-5.

TABLE 16

ESTIMATING TEACHER NEEDS FOR PRE-KINDERGARTEN AND KINDERGARTEN (AGE 4 AND 5) EDUCATION IN APPALACHIA

1.	Number of children under age 6	2,141,792[a]
2.	Number of children age 4 and 5	585,700[a]
3.	Number of 4- and 5-year-olds enrolled in private, volunteer, OEO, and Head Start day care centers, July 15, 1969	110,000[b]
4.	Number of 4- and 5-year-olds enrolled in public pre-kindergartens and kindergartens, October, 1969	54,700[c]
5.	Number of 4- and 5-year-olds not enrolled in any program, October 1969	421,000[d]
6.	Number of teachers needed to staff programs for these children	21,000[e]

Sources:

a. Lazar, I., "Organizing Child Development Programs," *Appalachia, A Journal of the Appalachian Regional Commission*, Vol. 3, No. 4, January, 1970, pp. 1-5.

b. Estimated by assuming that 19,062 of the 129,062 children known to attend day care centers in Appalachia, shown in Table 1 of Source a, are not 4 or 5 years old.

c. Estimated from data in this study. 0.3% of Appalachian public school teachers teach pre-kindergarten; 1.2% teach kindergarten; 5.3% teach first grade. We assumed that the numbers of students eligible for these three groups are approximately equal. We estimated that the pupil-teacher ratio in first grade is 30 to 1, slightly greater than the 28 to 1 obtaining for all grades. We assumed that the pupil-teacher ratios in pre-kindergarten and kindergarten are 20 to 1. We multiplied the number of teachers assigned to first grade times 30 in order to obtain an estimate of the students in first grade. The analogous multiplications estimated the number of students enrolled in public kindergartens and pre-kindergartens, entered as item 4 of the table.

d. Item 2, less items 3 and 4.

e. Estimated by applying a pupil-teacher ratio of 20 to 1 to item 5.

the schools allowing partnership teaching. An example of a successful partnership teaching program is one that has been run for a number of years by Mrs. Nona Porter at the Women's Educational Industrial Union at 264 Boylston Street, Boston, Massachusetts. Under their plan, two teachers share a classroom, one teaching in the morning and one in the afternoon. Participants in the program are all women who have been educated as teachers who are now married and do not wish to devote full time to teaching. Superintendents and principals in participating school districts have been enthusiastic about the results of the program. Many Appalachian states permit part-time teaching.

2. Other Teacher Preparation Needs

A second area in which cooperation of local educational agencies and the TPI's is needed is the certification of non-certificated teachers. An unduly large number of Appalachian teachers have no bachelor's degree or incomplete certification. It is clear that many of them are making little progress in improving their education and achieving certification. Local educational agencies (LEA's) might encourage such teachers to complete their educations and achieve full certification. The universities and colleges of the area can expand their programs of teacher-relevant courses. We shall discuss below some of the methods they may use to do this.

A third area in which preparation programs must be increased is that of teaching the disadvantaged (poor). Many of the students in Appalachia are disadvantaged, and yet very many teachers have received no specific training in adjusting their teaching methods for this kind of student.

A fourth area in which more preparation must be offered is that of knowledge of vocational opportunities for students. This kind of training is especially necessary for high school and junior high school teachers. LEA's can investigate the desirability and feasibility of in-service courses at which local representatives of business and industry discuss with teachers the opportunities for jobs available to their students after graduation. It is particularly meaningful to offer such courses locally for teachers, since many of their students will be competing in the local labor market.

Related to the previous is the need for the preparation of additional teachers in trade and industrial education and vocational education. Teachers in the former area indicated significantly more often than other teachers that they have not received the training to fulfill their teaching responsibilities.

Finally, LEA's should look into the subject-matter preparation of their teachers, especially in those subjects, discussed in Chapter V, where many teachers do not have significant formal preparation for the subjects they teach. In-service training and college courses are the obvious options to meet the needs uncovered.

How should in-service training of teachers be organized? What methods should it employ? Basic to this question's answer is the fact that needs for in-service training are greatest among the older teachers. States, Local Educational Agencies, and SEA's might adopt incentive plans to encourage teachers who have been out of school for many years, who are not certified, who may not have a college degree, and who have not received any kind of training in many years, to increase their competence by entering in-service training or taking relevant college courses. Such encouragement may be by means of salary incentives, or it may take the form of giving them a number of years in which to take courses to remedy their educational lacks. Finally, intrinsic motivation can be developed; LEA's and TPI's can offer training which is obviously and directly relevant to teachers' classroom responsibilities. In many cases such instruction should be offered during the regular school day, with the teachers excused from their regular responsibilities.

Schools in a given area may join in multi-district service agencies to survey and meet their own teachers' needs for professional updating, or courses may be offered by regional centers. The institutions can then bring in educators either from local colleges and universities or from their own teaching ranks to supply the courses. It is critical that courses be offered only after it has been determined that they are relevant to teachers' needs and the teachers themselves have discussed what courses are needed.

Because many of the teachers who particularly need in-service training are in rural areas, innovations in educational technology will be extremely useful. These can include the use of audio-visual material and programmed instruction methods instead of an instructor, often difficult to furnish under these circumstances.

In summary, we believe that the highest priority should be given to

> programs to supply the teachers needed in early childhood education and
>
> programs that will remedy gaps in knowledge of basic and recently developed educational methods and subject matter.

B. RETENTION OF YOUNG, WELL-EDUCATED TEACHERS

We found in our study that Appalachian schools tend to lose their younger and better educated teachers and are more likely to lose their male teachers than their female teachers. The salary level of systems is related to their ability to retain teachers. As more and more industry moves into Appalachia, the competition for the better male teachers will increase. One solution is to raise teachers' salaries in order to make them competitive with those of industry and with those which teachers can earn in other states. Some idea of the discrepancy between Appalachian teachers' salaries and those of other states may be gleaned from the following: Document 4 indicates the mean U. S. teacher salary in 1968-69 was $7,900 per year. We have used the median salary in our sample, $6,500, to estimate a mean salary of $6,900 for the teachers in the Appalachian states participating in our study. This estimate comes very close to the unweighted average of the mean salaries in the eleven states participating in our study shown in Document 4. Thus, the average U. S. teacher earns $1,000 more a year than the average Appalachian teacher. We belive this discrepancy is responsible for Appalachian schools losing some of their best teachers, especially men teachers.

And yet, the retention of good young teachers is not simply a matter of salary. We have found out in our study that teachers are initially attracted to teach in the areas in which they grew up. The teachers and our analysis of factors related to teacher attrition intentions told us many things that LEA's can do to increase the attractiveness of teaching in their own communities and thus retain their best teachers.

> They can assign young teachers to teach in those subject matter areas in which they are trained.
>
> They can decrease the amount of red tape it takes to get things done in the school system.
>
> School administrators can show young teachers that they respect them.
>
> Superintendents can protect young teachers from outside community pressures.
>
> School systems can markedly increase young teachers' opportunities for professional growth and development. (We have discussed this in the previous section.)
>
> Fringe benefits for teachers can be improved.

In addition, many of the factors which drive teachers out of Appalachia are those related to the community. For example, pupil discipline may be poor, teachers may have low prestige among pupils, communities may not sufficiently respect teachers. Such matters are not easily within the control of a school system, but we believe that each system which wants to retain its best teachers should give hard thought to what it can do to improve these factors.

C. HELP IN TEACHING (PARAPROFESSIONALS AND EDUCATIONAL TECHNOLOGY)

Two kinds of help can enable teachers to teach better, teacher aides (paraprofessionals) and educational technology. Supplying both of these to more teachers in Appalachia will help them multiply their own capabilities and increase the creativity of their teaching.

1. Teacher Aides

Few Appalachian teachers now have teacher aides. We recommend that Appalachian schools hire paraprofessionals to take some of the clerical load off teachers. This will enable the teachers to pursue the more creative aspects of working directly and individually with their students. Second, teacher aides can take over the class as a study hall while teachers leave it during the regular school hours in order to pursue additional professional training. (We have discussed this above.)

2. Educational Technology

We found out that the supply of many kinds of educational facilities is inadequate in Appalachian schools. Further, inadequacy of instructional facilities is related to teachers' intentions to leave their systems. We recommend that Appalachian schools invest in more of these mechanical aids after a period of time to allow teachers to learn how to use these devices to multiply their efficiency. The costs of some of these teaching aids can be covered under Federal government projects under Title III or Title I of the Elementary and Secondary Education Act of 1965. Library materials may be purchased under the United States Library Services and Construction Act of 1966. The following is a list of teaching aids most needed, with the first having the highest priority:

Science equipment

Language laboratories

Science laboratories

Audio-visual materials (maps, charts, films, etc.)

Audio-visual equipment (projectors, tape recorders, etc.)

Library materials (books, periodicals, etc.)